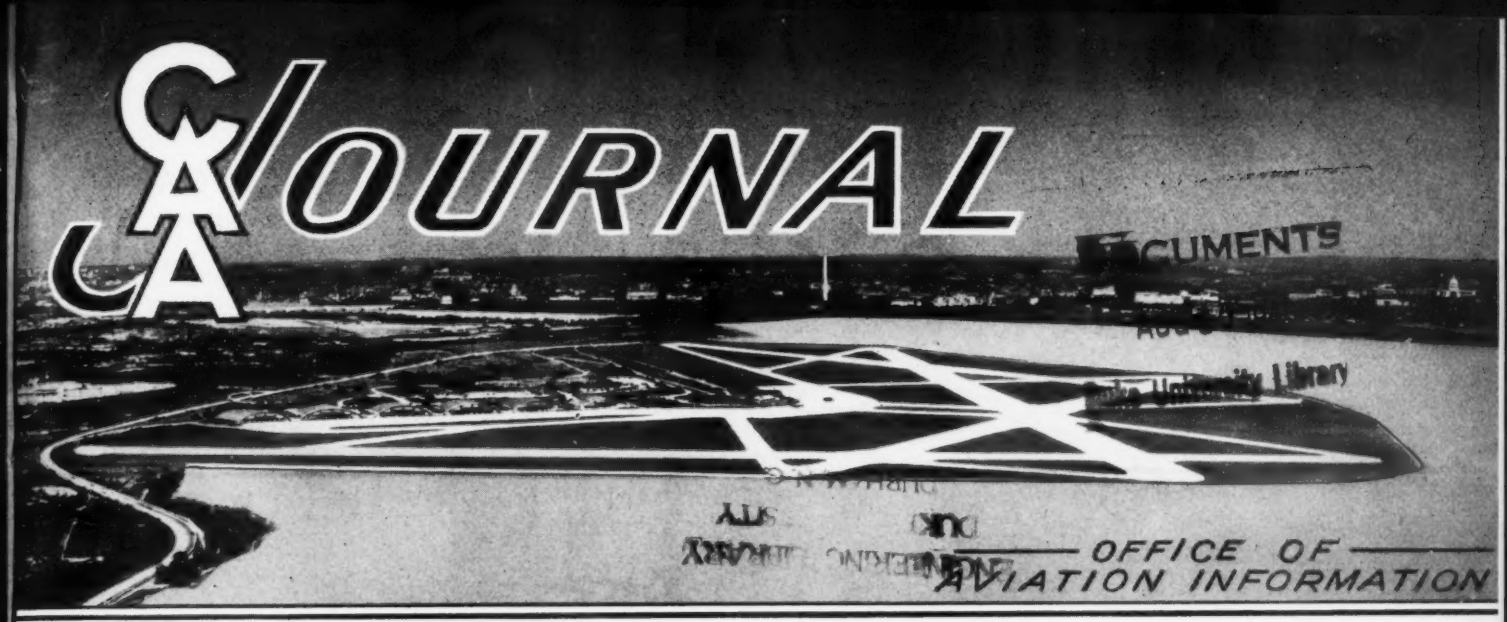

New Airworthiness Rules Are Proposed For Safer Airplanes

Wide open opportunity for the design of a better and safer personal airplane is provided in new airworthiness requirements proposed by the Civil Aeronautics Administration.

The proposals were framed by Charles F. Dycer, of the Aircraft Components Service of the Civil Aeronautics Administration, after extensive study of operations and accidents records of the personal airplane.

If the Civil Aeronautics Board writes these requirements into law as Civil Air Regulations, CAA's engineers and inspectors will then see to it that all civil airplanes produced meet the minimum conditions. Manufacturers, may, of course, build planes as far superior to these minimum requirements as competition dictates.

The recommendations of the CAA are contained in a proposed new Part 03. Copies are obtainable from the CAB, Public Information Section, Department of Commerce, Washington, D. C., by interested persons who may wish to comment on the proposals.

Early completion of the revision is desirable so manufacturers may learn as early as possible postwar standards.

Cause of Accidents Studied—This policy has been in effect since 1926 when the first federal supervision of airplane design, construction and operation was started to insure the safety of the flying public. It is based on studies made over the years by the CAA to determine the causes of accidents. It is not intended and has not worked to direct or limit the manner in which planes are to be built, and it has left the door open always to innovation, American ingenuity, and technological advance.

Three major considerations are at the base of the new suggestions. One is the question whether the airplane itself has caused too many accidents by requiring too high a level of skill to operate it. All forecasts indicate an influx of new pilots after the war. A high percentage of beginners usually results in a lower average of skill. Anticipating this influx, the CAA holds that we should produce airplanes safer to fly with a lower level of skill required of the pilot.

(*See New Rules, next page*)

Surplus Airplane Market

A DETAILED study has been made by the Civil Aeronautics Administration of the surplus plane market, and it is available to persons interested through the CAA Information Service.

With the sales of War Training Service planes taken as an index the potential market is viewed as promising. Approximately 40,000 bids were received on the 5,300 surplus craft without the stimulus of an extensive sales campaign.

The booklet, Surplus Airplane Market with text, graphs and maps gives a comprehensive picture of the War Training Service surplus aircraft disposal operation.

Bad Weather Landing Time Is Halved, Tests Of CAA Method Shows

New methods in traffic control developed by the Civil Aeronautics Administration, resulted in cutting half the landing time of airplanes in bad weather.

Demonstration tests were held at the Washington National Airport before key officials of the Air Transport Association and the Airline Pilots Association. Standard equipment and existing radio facilities only were used, and it was apparent that with equipment specially designed for the purpose, landing time could be cut almost to good weather routine.

Saturation point traffic now results in many serious delays to air travel, and the Civil Aeronautics Administration is making every effort to lessen this serious impediment.

Five Transports in Tests—Using five CAA transport airplanes, flown by CAA pilots, the Air Traffic Control Division simulated zero-zero conditions by blacking out the pilots positions and forcing each pilot to guide his plane entirely by instrument. Control was maintained by regular airport tower controllers.

Previously, the best average time for bringing in planes for instrument landings was between 10

(*See Landing, last page*)

CAA Perfecting Plans For International Air Meeting At Montreal

The Civil Aeronautics Administration is entering a period of intensive international activities, with the forthcoming Montreal meeting of the Provisional International Civil Aviation Organization (PICAO) as the starting point.

Date for the meeting had not been set at this writing, but it probably will be held in mid-August.

Edward Warner, vice-chairman of the Civil Aeronautics Board, has been named U. S. representative on the Interim Council, which is the executive body of PICAO, and the following officials have been chosen to serve as U. S. technicians on the subcommittees which are expected to be activated at Montreal:

U. S. Group Selected—Lloyd H. Simson, CAA, Communications; Delbert M. Little, Weather Bureau, Meteorology; Paul A. Smith, Coast and Geodetic Survey, Aeronautical Maps and Charts; James F. Angier, CAA, Landing Areas and Ground Aids; Glen A. Gilbert, CAA, and John J. Quinn, CAB, Air Traffic Control; Robert D. Hoyt, CAB, Personnel Licensing; Charles F. Dycer, CAA, Airworthiness; John M. Chamberlain, CAB, Search, Rescue and Accident Investigation; Harry G. Tarrington, CAA, Aircraft Registration and Identification; Burke H. Flinn, Treasury, Customs, Immigration and Quarantine.

In preparation for the Montreal meeting, committees of U. S. technicians coordinated by A. S. Koch, Assistant Administrator of CAA, have revised the technical annexes drafted at Chicago, after meetings with industry representatives.

3 Foreign Offices Planned—Looking beyond Montreal to a continuing program in the international field, the CAA has drawn up plans for the establishment of at least three foreign offices, tentatively slated for London, Lisbon, and San Juan, Puerto Rico. Funds for the establishment of these offices, and for staffing a Foreign and International Service in Washington have been asked in a supplemental appropriation bill. In justification of this request, the CAA cited calls for civil aviation assistance it has received from 33 countries during the last year. The requests came from as far afield as Ethiopia, Iran, Norway, Turkey, and the Union of South Africa.

Private Flying Affected By CAR Changes; New Air Traffic Rules To Be in Force Aug. 1

A number of major changes in the Civil Air Regulations which will affect private flying went into effect July 1 with the advent of the revised Part 20, "Pilot Certificates" and the new Part 43, "General Operation Rules."

The effective date on the revised "Air Traffic Rules" (Part 60) has been advanced, however, from July 1 to August 1.

This action was taken in compliance with requests from the military forces and airlines for reconsideration of 1,500 feet as the minimum altitude for instrument flight. Present minimum limit is 1,000 feet above the ground for pilots flying by instrument.

Changes which went into effect July 1 include: The minimum age for a private pilot's certificate has been dropped from 18 to 17.

Simpler Examination—Aeronautical knowledge requirements have been changed to eliminate examinations in meteorology, navigation and general service. Written examinations will be given only in Air Traffic Rules, and in a new part of the regulations called General Operations Rules.

Aeronautical experience required takes another new and important slant at the private flier's problem. Formerly 8 hours of dual instruction

Instruction Time Increased—The new rules recognize the importance of the instructor by requiring not less than 10 hours of dual instruction on the conventional plane, of which at least two hours must be after solo, and 30 hours of solo to get the license. Figures for the "safety" plane are seven hours dual, of which two must be after solo, and 20 hours of solo time. In each of these cases cross country time has been dropped from a minimum of five hours to three.

Aeronautical skill requirements have also been revised. In flight tests for a private certificate, spirals have been eliminated. The applicant is required to do three figure eights, with the plane moderately banked, and the angle in the 720-degree power turn has been changed from 60 to 45 degrees. The test no longer includes simulated forced landings, and several coordination exercises have been eliminated with climbing and gliding turns at minimum controllable speeds added.

Pilot Privileges—Instruction may be given now by any pilot, but only a commercial pilot may charge for the service. This allows the owner of a private plane to give instructions to his friends and relatives, but not for hire. However, the private or commercial pilot, who does not hold an instructor rating, may not authorize a student to solo, nor does his instruction reduce the amount of instruction required by rated instructors. This change merely recognizes the inevitability of pilots teaching their friends to fly, while it retains the safety precaution of rated instructor supervision.

Log books need now contain only sufficient entries to substantiate recent experience requirements or requirements for changes in ratings. Previously every flight was supposed to be logged.

Power ratings have been eliminated. Hereafter, no pilot shall carry passengers unless within the preceding 90 days he has made at least five takeoffs and landings in an aircraft of rated horsepower within 50 percent of that of the aircraft to be flown. A pilot may fly solo any aircraft of any horsepower.

Physical Examination Procedure—Physical examinations, beginning June 1, may be given by any registered physician. Previously, only designated medical examiners could do this, and the physical requirements for a certificate were high. Now, the psysician uses a relatively simple form, refusing a certificate only when a disease exists which might suddenly incapacitate a pilot.

New Rules

(Continued from first page)

Stalls Cause Many Accidents—In general inadvertent stalls are fewer the higher the airplane's rate of climb. Accident figures show many accidents resulting from the stall. A skillful pilot can fly a plane with a low rate of climb safely, but there will be many thousands of beginner pilots from now on to whom a high rate of climb would be some protection. Temperature, altitude, and rough air, affect a plane's rate of climb. The skilled pilot can usually allow for, or avoid these conditions, but unless the novice pilot realizes the performance margin required to offset these factors, he may be in serious difficulty. Figures show that accidents of this type drop off rapidly in number in planes that have a rate of climb of 500 feet per minute or better.

A second consideration is to write regulations that will leave manufacturers free to use their ingenuity and technological ability. The CAA believes government should state the broad objective, and leave method of achieving them entirely to the plane builder. Regulations should never be so specific as to restrict initiative or inventiveness. For example, once it is determined how strong a structure should be to be safe any type of structure that meets that standard should be accepted.

The third consideration is that this policy has resulted in production of better civil planes in this country than anywhere else in the world.

6 Categories Proposed—The CAA proposes six categories of airplanes: Special Personal (nonacrobatic), Normal (nonacrobatic), Utility (training) (limited acrobatic), Acrobatic (advanced training), Restricted Purpose (industrial) and Transport. Airplanes in these categories would be built according to standards of safety necessary for the specific uses to which they will be put. The first two would be the planes for personal use, and they would not be built to withstand acrobatic flying. The customer would be explicitly informed of the plane's limitations. Thus, for example, the manufacturer would build a plane which would be safe for routine, conservative use by the American family, and his costs would be affected only by the airworthiness requirements for this category. However, he would not be restricted from building planes in this category which would meet the requirements of a higher category if he wanted to.

In general, the CAA believes the prospective pilot deserves the assurance of his government on five basic facts about the plane he proposes to buy:

1. His airplane will be strong enough to withstand normal service strains and rough air if flown within the limits outlined in the airworthiness certificate.
2. The airplane will be stable. This means that it will strongly tend to maintain or return to the attitude and the speed to which it has been trimmed by the pilot.
3. It will be controllable, i.e., it will respond to the controls smoothly and positively so as to facilitate accurate flight, safe takeoffs, landings and other necessary maneuvers.
4. The airplane will have a rate of climb great enough to permit safe flight under unfavorable conditions normally encountered in the United States. These include hot summer days, airports at high altitudes, and rough air, conditions that affect rate of climb.
5. Single engined airplanes will have a landing speed low enough to permit safe emergency landings in unprepared fields of reasonable size and smoothness.

Establishing minimums in these characteristics will not handicap the manufacturer, the CAA contends. Only those manufacturers who build planes that fall below the minimum standards, or along the margin, will have any difficulty, and those difficulties will not adversely affect civil aviation development.

Recent CAA and CAB Releases

Copies of releases made by the Civil Aeronautics Administration and the Civil Aeronautics Board are obtainable from the CAA Aviation Information and Statistic Service and the CAB Public Information Section, both in the Department of Commerce Building, Washington, 25, D.C.

CAA RELEASES

New approach control demonstrated by Civil Aero. Administration.

CAA believes airworthiness requirements should produce better personal airplane.

Landing places in national parks urged by CAA committee.

Major changes in pilot rules effective July 1.

CAB RELEASES

Effective date on revised part 60 August 1.
National gets direct line to Miami.
Philadelphia airport opened.
New part 44 adopted.
New airworthiness standards proposed.
Domestic air carrier revenues.
Continental routes extended.
LAMSA gets temporary permit.

British Military Plane Seen As Private Craft

A low-wing monoplane, now in military service, which is said to be peculiarly adaptable to private flying is described by the Society of British Aircraft Constructors in a recent release.

The plane, known as the Miles Messenger, will be available to the flying public as soon as the war ends.

"The Messenger should," says the release, "appeal strongly to private owners who require a light, robust, three-four seater with a good turn of speed but at the same time is not exacting in pilot skill. An indication of its flying characteristics is given by its speed range. It has a top speed of 120 mph. and a stalling speed of only 28 mph., a ratio of more than four to one. It can take-off and land with a run of only 60 yards in a 5 mph. wind, and can clear obstacles 50 feet high in a distance of 138 yards from the start of the take-off run with an engine of 140 hp. and loaded to within 390 lbs. of its maximum all-up weight.

"For a single-engined aircraft, its cabin is broad and roomy. It measures 4 feet from side to side, giving each passenger a seat of "luxury airliner" dimensions. Another attractive feature is the excellent soundproofing; conversation can be carried on between the occupants without voices being raised. To roominess and quietness is added a sweeping field of view through a one-piece moulded plastic cabin canopy and large transparent side panels.

"The *Messenger* was built for military use and it had to be able to work from small areas of rough unprepared ground, often surrounded by trees and other obstructions. It had to be easy to fly so that pilots of limited experience might take over the controls and was required to carry two occupants (each with a parachute), a large radio transmitting and receiving set, armour protection and various items of military equipment.

"With the standard de Havilland Gipsy Major IC engine, the *Messenger* has a cruising speed of 122 mph., can climb at the rate of 1,000 feet a minute from sea level, has a service ceiling of 17,000 feet, a fuel consumption (cruising at 94 mph.) of six gallons an hour, a range in still air (with 18 gallons of fuel) of 275 miles at 5,000 feet. With extra wing tanks, the range is exactly doubled. Maximum duration with 18 gallons of fuel is 3½ hours. The *Messenger's* ability to operate from small meadows frees it from the need to use prepared landing grounds. This makes it especially suitable for operation in areas lacking the landing facilities needed by larger aeroplanes."

World's Busiest Civil Air Traffic Center Plans For Peace

Three-way Job: Aiding Planes in, Keeping Pilots Weather-wise And Insuring Contact

One of the largest and busiest air traffic control centers in the world, New York, is preparing now for a tremendous increase in business after the war.

Controlling sky traffic becomes increasingly important in bad flying weather. It is a job done by men who rarely see the airplanes whose progress they chart and direct along the airways of the world. It is a job requiring millions of spoken and written words, transmission of which, for perfect control, ought to be as fast as the process of thought.

Air traffic control is closely tied in with two other jobs. There is the specific job of telling the pilot from the ground what he may do safely; the transmission to him of weather information, vital to flying; and keeping communications open by which he is always in touch with the ground.

Three Government Agencies Involved—Three kinds of government workers perform these services: (1) Air Traffic Controllers (2) Meteorologists and (3) Aircraft Communicators.

For the first time in New York all these functions are concentrated on one floor of one building at LaGuardia Field. Although this smooth-working system has been operating at a saturation point for many months, it is considered adequate for today and the next few months. Civil Aeronautics Administration officials believe it soon must be revised, speeded up and improved, if it is to keep up with air transport progress.

That is why Oren D. Harwood, Regional Administrator, Herbert Depue, Supervisor of Airports, James Ducrest, Chief, Air Traffic Control Branch and R. C. Donaldson, Chief, Communications Branch of the First Region, looking over their center proudly, still agree that more changes must be made.

Complicated Problems—New York's problem is complicated. At LaGuardia Field, is a mixture of foreign traffic entering the streams of domestic traffic coming from every part of the continent centering at the country's greatest metropolis. New York is now, and will be increasingly, the terminus for inter-continental traffic.

Posting boards keep constant record of planes in flight.

Its traffic center must be octopus-like with its oceanic arms reaching several hundred miles out to sea, and its land arms on a radius of about 125 miles.

Speed is the watchword. Pilots must have weather information as fresh as an April shower, and communication with their points of departure and destination as rapid as radio.

When instruments were developed to enable pilots to fly through storms and cloudy weather conditions, it first became necessary to control traffic along the airways. Previously, flying only in good weather, the pilot could look out the plane's window and avoid running into other planes. Now, with many planes in the air, in all weather, with literally scores of planes converging on a spot like New York, Washington or Chicago to land within a short space of time, the pilot must be helped from the ground.

Drama in Control—This process calls for ingenious equipment, and produces many a drama. Imagine sitting at your phone in the parlor giving instructions to 12 or 15 pilots circling in the murk above you, awaiting their turn to land. If everything goes well, they land as per your instructions, safely, one at a time, each one dropping down 1,000 feet as each landing is made. But the pilot at 6,000 feet is in trouble. He is due to land in an hour, but he finds he has but 30 minutes of gas left. He must be brought in out of schedule.

That can be done, but suddenly out of the crackling, radio-filled air, you hear the voice of an army pilot on an important flight who doesn't appear in your lineup. He has VIP (very important persons) aboard and he must land.

While you wrestle with procedure, revising it as you go, other airplanes are approaching, the weather is changing along the airways and at your station, airline planes are asking permission to take off—your seat in the parlor would be very uncomfortable, even if you were a trained traffic controller.

Not Centralized—Remember that this center is not on the airport. Its operators are distinct from the traffic controllers in the airport tower. They are concerned only with getting the approaching planes in position to land, and the tower takes over once they are in sight of the ground. And just to keep matters true to their impermanent form, even this arrangement is in process of change.

In the center, men sit before inclined posting boards. In racks on these boards are small, movable frames holding strips of paper on which the facts about each trip along the airways are noted. As these planes approach their destination and land, their cards move down and off the board. Through radio, these planes are constantly reporting their position along their routes, and at each report their position on the board is changed. At a glance, the skilled operator can tell where planes are along a given route, can actually inform the pilot what planes are in the air.

The pilot can never have too much of weather information. Almost monthly since the first impact of flying on the Weather Bureau, there have been improvements in forecasting and communicating to the pilot.

(*See Traffic Center, last page*)

Trans-Atlantic radio operated by T. Licari checks foreign traffic as it enters.

Arthur Szumski platts location of craft by an azimuth indicating radio receiver.

Engineers Of CAA Help Set Up Vast Air Cargo Route Over the 'Hump'

An amazing picture of aerial transportation has been unfolded as a result of the opening of the "Burma Road" in the clouds which made possible the recent achievements of military forces in the C.B.I. theatre. Ours, Great Britain's, Canada's and China's have set a pattern of what can be done in surmounting tremendous obstacles, not the least of which is the "Hump", where the Himalayas rise to 20,000 feet.

CAA Contributes—Contributing materially to the successful operation of the route are radio ranges installed by the Civil Aeronautics Administration, which also supplied the equipment and whose engineers selected sites, supervised construction and made installations.

In a recent 30-day period, 77,000 tons of war supplies were flown into Burma by the U. S. Air Force, the Royal British Air Force, and the Royal Canadian Air Force. Many of these planes were piloted by Chinese fliers. This total is 2,000 tons more than the record for the preceding month and it was made despite extremely unfavorable weather during the pre-monsoon season.

Possibly the ukase of Brigadier General Thomas O. Hardin, who will be remembered for his part in framing the Civil Aeronautics Act of 1938, and as chairman of the Air Safety Board, may have had something to do with maintaining the steady stream of cargo planes over the "Hump."

Hardin Blazes Trail—Fogs, mists and gales swirling and lashing over the Dome of the World turned many fliers back and General Tom decided to do something about it. So he took off, with all weather conditions against him and flew the "Hump." Upon his return to base he issued this order:

"Effective immediately. There will be no more weather over the 'Hump.'"

Fair skies, by dictum, did the trick and fliers turned back only when the weather was more to be dreaded than General Tom's remarks. A steady stream of air cargo flowed and gradually its volume increased until in April it touched the amount mentioned, 77,000 tons.

Aviation experts have estimated that 20 DC-4's or 40 Constellations can carry as much freight over the Burma aerial road as ever moved by trucks over the highway.

Stimulates Private Enterprise — Military achievement in handling heavy cargo by air along a route, admitted to be the most difficult known, has been a stimulant to the investigation of peacetime possibilities of air freight. Already, war-taught lessons are being applied to the solution of this particular peacetime problem.

So far, commercial airborne cargo has been almost exclusively confined to the more expensive commodities; those of a perishable nature or articles whose profitable market is determined by the element of time.

Fruits and vegetables from the south and far west; fish from the Atlantic Seaboard and "sets," such as tomatoes, have been the major items. Wisconsin dairymen now are considering transportation of their products by air.

One of the advantages of air transportation which is influencing the thinking of dairymen is refrigeration. They foresee the time when a consignment, held at the proper temperature by artificial means, may be loaded into a plane and flown at a height which will maintain that temperature until the destination is reached. Still another plan is to load fresh vegetables and fruits into planes and fly to market at very high altitudes, quick-freezing the cargo en route.

CAA Revises System Of Safety Directives To Meet Growing Need

A more effective system for the issuance of Airworthiness Directives and one better suited to increasing civil aviation activity is announced by the Civil Aeronautics Administration Engineering Division. It becomes effective immediately.

The new Safety Regulation release 182 advises aircraft owners, manufacturers, operators and other interested persons of a change in the procedure and method of issuing airworthiness directives and related information concerning unairworthy conditions found to exist in certified aircraft and corrective measures required to prevent their recurrence.

The following system will be used:

A. **Bulletins Eliminated**—Airworthiness bulletins will be consolidated with airworthiness directives under the latter heading. Thus, airworthiness bulletins will be eliminated.

1. As each directive is revised in the future the material in any airworthiness bulletin referred to therein will be incorporated in the revised directive.
2. In the future, when it is necessary to distribute urgent information currently covered by airworthiness bulletins a supplement to the pertinent airworthiness directive will be issued. The supplement will later be incorporated in the directive at the time of its next revision.
3. Where Airworthiness bulletins have been issued to cover corrections to items of equipment (as, for example, automatic pilots, propellers, wheels, parachutes, etc.) and also crop dusting, photographic and parachute drop testing installations, etc., and it is not possible to identfy the items with specific airplane models, the information will be issued under special airworthiness directives. Few cases of this nature are expected.
4. Airworthiness directives will be given the same number as the type certificate for the pertinent airplane model. Thus, for example, the airworthiness directive applicable to airplanes approved under Type Certificate No. 800 will be numbered AD-800-1. The next revision to that directive will be numbered AD-800-2.

B. **Notes Renamed**—Instead of "inspection" and "special" notes, the directives will have "mandatory" and "service" notes. The notes in each newly revised directive will be changed to mandatory or service notes as applicable. Some of the existing notes may be deleted entirely.

1. *Mandatory notes*—"Mandatory" notes will be ones with which the owners must comply. CAA inspectors will check airplanes for compliance with these notes. Only conditions *seriously* affecting the airworthiness of an airplane will be considered to warrant mandatory notes.
   a. The notes will be written in the same manner as "inspection" and "special" notes. They will describe in principle how to correct unairworthy conditions and will make proper reference to manufacturers' service bulletins.
   b. Notes will give specific information as to when compliance is required; for instance "prior to next flight," "before completion of next 10 hours of operation" (after effective date of note), "not later than next major overhaul" (air carrier operation only), etc. Indefinite statements such as "as soon as practicable" will not be used in mandatory notes. However, an airworthiness certificate will not be issued or periodic inspection endorsement made unless all mandatory notes have been complied with.

(*See Directives, page* 79)

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CAA JOURNAL

Henry A. Wallace
Secretary of Commerce

Civil Aeronautics Administration
T. P. Wright, Administrator

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CAA AVIATION INFORMATION

CAA Answers

Q—My vision in semi-darkness is exceptionally keen, but in the light my sight is below par. Is this exceptional? M. L.

A—No. A, for instance, may be able to see clearly with only one-tenth of the light needed by B whose vision in adequate light much exceeds that of A. Off center glances in dim light will greatly increase a man's night vision.

Q—Is there such a thing as "skyhook"? S. N.

A—It is airman's slang for parachute.

Q—When was the first airmail airport in the United States established and where? C. S.

A—1918, Washington, D. C. The first flight was between New York and the Capital and the landing field in District of Columbia was the Polo Grounds in Potomac Park.

Q—Is the noise made by airplane in flight caused by the engine or propeller? I. S.

A—Both. A low-powered engine makes more noise than the propeller, and it is just the reverse with a plane equipped with a high-powered engine.

Q—What Army equipment may an Army pilot keep after his discharge? E. H.

A—The great majority of Army pilots are officers, and officers purchase the bulk of their personal property. Such equipment being the personal property of the pilot is of course retained by him after discharge.

However, there are certain items of equipment peculiar to the Army Air Force which are issued to each pilot on a memorandum receipt. These items—such as the flying suit, helmet, fur-lined boots and goggles, pistol and pistol-belt—must be returned to the Army prior to discharge.

J. M. Dikeman Is Appointed As CAA Assistant Counsel

James M. Dikeman has been appointed Assistant General Counsel of the Civil Aeronautics Administration.

Mr. Dikeman has been with the Civil Aeronautics Administration since December, 1940—first as attorney in the Airport Division, then as attorney in the Aeronautical Division, and for the past two years, as attorney in the Office of the General Counsel.

Foreign Air Carrier Rules, Effective July 1, Are Adopted By CAB

The Civil Aeronautics Board has adopted a new Part 44 of the Civil Air Regulations, entitled "Foreign Air Carrier Regulations," which became effective July 1. It supersedes the presently effective Part 66 dealing with foreign air carrier regulation.

This new Part defines the requirements to be met by air carriers of foreign countries operating scheduled service in the United States under permits issued by the Civil Aeronautics Board, and is applicable in continental United States and outlying territories under its jurisdiction, excluding the Philippine Islands.

All operations within the United States shall be conducted in accordance with specifications issued by the Administrator of Civil Aeronautics and include the airports to be used, the routes or airways to be flown, and such operating rules and practices as are necessary in the interest of avoiding collision between foreign aircraft and other aircraft.

Must Have Certificates—Each air carrier aircraft must possess a currently valid certificate of airworthiness issued by the country where chartered.

The carriers, bound to comply with the applicable laws and regulations governing the ownership and operation of radio equipment, must provide each aircraft with the radio equipment necessary to make proper use of the air navigation facilities along, or adjacent to, the route to be flown within the United States and to maintain communication with ground stations along and adjacent to such routes.

Each member of the flight crew must have a currently effective certificate or license issued by the country chartering the aircraft, evidencing competency to perform his duties in connection with the operation of such aircraft.

All operations within the United States shall be conducted in accordance with the air traffic rules prescribed in Part 60 of the Civil Air Regulations and with such local rules as are established at the airports to be used.

Pilot Requirements—Each pilot assigned shall be familiar with the pertinent rules, with the navigational and communication facilities to be used, and with the air traffic controls and other procedures employed in the areas to be traversed. Each air carrier shall establish procedures to insure the possession of such knowledge by its pilots and shall check the ability of each pilot to operate safely in accordance with the rules and procedures.

Provisions for Ground Force—The carrier shall, subject to compliance with immigration laws and regulations, furnish the ground personnel necessary to provide for two-way voice communication between the aircraft and ground stations at such places as the Administrator of Civil Aeronautics finds voice communication necessary, if communication cannot be maintained in a language with which ground station operators are familiar. Such personnel shall be able to speak both the English language and the language necessary to maintain communication with the aircraft and shall assist ground personnel of the United States in directing traffic. These requirements shall not be applicable in cases where the CAA finds that such traffic can be adequately controlled by the use of radio telegraphy or other means.

Policemen of the Air

An occupational air force which will function as much policeman as soldier is announced by the magazine Aeronautics which states plans for such a force are being prepared in Supreme Headquarters, Paris, and the War Department in Washington.

Six Lighting Approach Systems Tested In Indianapolis By CAA

Six different airport lighting approach systems are under development at the Civil Aeronautics Administration Experimental Station at the Indianapolis Municipal Airport. Three systems already are installed; three others will be installed soon and control facilities for four additional systems are available.

All of these systems are intended to meet varying flying-landing conditions, and each one is being worked on by the CAA in cooperation with the airlines, the electrical industry, the Army and Navy and the National Bureau of Standards.

Selection of Problem Sought—Out of all the systems, thoroughly tested and examined, the Administration hopes to obtain practical solutions for many of the difficulties of bad-weather landings.

Radio systems for "blind" landings, however good, still do not answer the pilots' needs. Lights, they say, are essential for the last portion of the approach and landing.

To facilitate the developmental work constantly in progress on approach lighting, the CAA has built a central switch panel by which any one of the different lighting approach systems can be turned on or off at will from either the control tower or from the field control station. The lights can also be dimmed or brightened from each of these points. This central switch panel makes possible a great number of actual flying tests during the comparatively short period of the time when suitably bad weather exists.

Can Make Comparisons—One of the developments at the Indianapolis Airport is an installation of circuits and supports for comparing two different systems of approach lights, and also a standard system of neon approach lights which is automatically turned off when either experimental system is switched on. The installations now installed include an Army-type Bartow light system, and a system of experimental approach lights, developed for the CAA by the Westinghouse Company in accordance with a design worked out by the CAA and the National Bureau of Standards after earlier experiments. An experimental installation of lights along the middle of the approach way and the angled linear approach system of lights developed by the late Jerry Sweet, of the Airport Development Section, are now being installed.

New Instrument Developed—As a tool in this development, the CAA's Technical Development Service has produced a "transmissometer"—an instrument which measures the light absorbed or scattered by the atmosphere, thereby indicating visibility distance. The first transmissometer ever developed is now in operation along the southwest approach at Indianapolis. Approximately 840 feet of the atmosphere is sampled and the transmissivity of this sample is measured by means of a carefully controlled beam of light. The results are recorded on a continuous chart in the Weather Bureau office, a mile away. The armed services have shown considerable interest in this instrument.

An additional "transmissometer" with a range of approximately 3400 feet is now being installed along the west boundary at Indianapolis. This is expected to give accurate indications of transmissivity for visibility distances up to twenty miles.

At Indianapolis this "transmissometer" is used to determine the intensity of the lights required under specific bad-visibility conditions. Too much light produces glare and discomfort for the pilot. Too little gives him inadequate aid. The continuous record of transmissivity is valuable for safe operation.

Experimental Area Marked—Approximately one mile of the Indianapolis Airport is outlined in experimental boundary lights. These lights appear as 7-foot horizontal green lines of light from outside of the airport, and as similar red lines of lights as seen from inside the airport. They are arranged so that the normal white boundary lights paralleling the experimental lights are extinguished when the experimental lights are turned on.

A flickering beacon consisting of a battery of four high-intensity lights is mounted on top of a hangar. These lights send flashes out at a rate of 120 per minute. Each flash is 50,000,000 candle power, and pilots have seen the light through heavy overcast. In clear weather, it can be seen as much as 50 miles away.

Other experimental lighting developments such as glide path indicators and retroreflective markers are being studied at Indianapolis for the sole purpose of determining improved ways and means of flying and landing irrespective of the weather.

CAA Tests Military Planes For Civilian Certificates

Tests have been started on three large transport planes for conversion from military to civilian use by the Civil Aeronautics Administration.

They are the Douglas DC-4, the Consolidated Model 39, commercial version of the Liberator bomber, and the Curtiss Commando cargo plane. The Douglas and Curtiss planes were designed and built at first in accordance with CAA airworthiness requirements, but in each case, the war interrupted the routine flight tests necessary before approved type certificates for civilian use could be issued. The Consolidated was converted to a cargo plane for war purposes.

Test pilots of the Aircraft and Components Service of the Sixth Region of the CAA at Santa Monica, will run the tests of the Douglas and Consolidated planes, the former at Santa Monica and the latter at San Diego. Tests of the Douglas are already in progress, and those on the Liberator will begin within 10 days.

Negotiations are underway with the Army for testing of the Curtiss Commando, and it is expected that as soon as a plane is available, CAA officials will start the tests at the company's factory at St. Louis or Buffalo.

Conversion from military to civilian activities and the disposal of surplus military craft are leading the CAA with a sudden volume of work. In almost every region, there is a shortage of personnel, and this is especially true in Washington where there is an acute shortage of aeronautical engineers. The work is as interesting as any in aviation engineering.

Landing Fields Suggested For National Park Visitors

LANDING facilities for aerial visitors to the National Parks, equal to those provided for automobilists, have been recommended by the Non-Scheduled Flying Advisory Committee of the Civil Aeronautics Administration.

The Committee suggested the CAA urge the Department of the Interior to make landing areas available, so that private fliers can land within the parks. Members pointed out that postwar private flying will include a large amount of pleasure touring, and the National Parks are natural attractions for the flier.

Domestic Air Carrier Statistics

Operations for May 1945

Prepared from official reports, submitted by the air carriers listed, to the Civil Aeronautics Administration and the Civil Aeronautics Board

Operator and routes	Revenue miles flown	Revenue passengers carried[1]	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (per cent)
All American Aviation, Inc., Pittsburgh-Huntington, Jamestown, Williamsport, Harrisburg, Washington—**Total**	**133,459**	**0**	**0**	**16,094**	**2,483,536**	**0**	—
American Airlines, Inc.—Total	**4,031,649**	**112,653**	**67,549,003**	**2,892,562**	**1,496,019,224**	**74,230,745**	**91.00**
Dallas-Los Angeles	1,298,372	24,758	23,356,169	502,885	466,574,495	24,437,493	95.58
New York-Chicago	588,401	24,157	9,082,784	877,031	409,049,620	9,911,362	91.64
Boston-New York	285,697	28,038	4,776,936	435,511	61,755,838	5,639,123	84.71
Cleveland-Nashville	98,191	7,407	1,797,796	146,580	34,581,957	2,003,597	89.73
New York-Fort Worth	1,160,915	32,582	18,779,646	575,589	334,020,665	20,686,630	90.78
Washington-Chicago	169,046	7,096	2,805,182	146,637	54,592,632	3,152,366	88.99
Chicago-Fort Worth	228,983	8,365	4,023,817	127,890	73,980,722	4,603,349	87.41
Buffalo-Toronto	4,560	990	75,240	4,318	328,168	94,088	79.97
El Paso or Fort Worth-Mexico City	197,484	3,322	2,851,433	76,121	61,135,127	3,702,737	77.01
Braniff Airways, Inc.—Total	**643,020**	**24,442**	**11,594,904**	**145,555**	**101,531,825**	**12,762,565**	**90.85**
Chicago-Dallas	356,673	13,733	6,534,837	132,178	82,032,012	7,016,429	93.14
Denver-Brownsville; Amarillo-Oklahoma City	251,412	13,816	4,506,572	11,679	18,019,294	5,039,745	89.42
Houston-Nuevo Laredo	34,935	3,244	553,495	1,698	1,480,519	706,391	78.36
Chicago & Southern Air Lines, Inc.—Toral	**381,695**	**13,484**	**5,928,534**	**164,766**	**73,476,856**	**7,571,975**	**78.30**
Chicago-New Orleans	300,008	11,924	4,857,216	131,300	59,239,262	6,251,306	77.70
Memphis-Houston	81,687	3,077	1,071,318	33,466	14,237,594	1,320,669	81.12
Continental Air Lines, Inc.—Total	**271,266**	**9,468**	**3,673,380**	**29,112**	**13,483,889**	**4,606,999**	**79.73**
Denver-El Paso-San Antonio	166,841	5,791	2,053,919	9,589	3,598,022	2,479,335	82.84
Denver-Tulsa	36,060	2,279	581,163	2,840	863,050	754,500	77.03
Denver-Kansas City	68,365	2,030	1,038,298	16,683	9,022,817	1,373,164	75.61
Delta Air Corporation—Total	**465,074**	**21,390**	**8,348,610**	**114,180**	**41,833,021**	**9,610,530**	**86.87**
Charleston or Savannah-Fort Worth	391,918	17,509	7,039,898	79,220	31,112,766	8,135,403	86.53
Atlanta-Cincinnati	73,156	4,110	1,308,712	34,960	10,720,255	1,475,127	88.72
Eastern Air Lines, Inc.—Total	**2,190,503**	**71,780**	**37,007,540**	**702,998**	**418,642,203**	**42,256,897**	**87.58**
Boston-San Antonio or Brownsville	720,954	24,480	12,579,245	185,915	125,498,754	14,350,418	87.66
Boston-Miami	856,646	22,830	12,078,647	265,068	185,054,802	13,661,631	88.41
Chicago-Jacksonville	345,703	16,715	6,415,058	184,314	73,672,639	7,254,069	88.43
Atlanta-Miami	166,408	6,973	2,961,513	23,468	13,780,468	3,389,003	87.39
Washington-St. Louis	100,792	9,347	2,973,077	44,233	20,635,540	3,601,776	82.54
Inland Air Lines, Inc.—Total	**143,928**	**4,858**	**1,556,665**	**10,151**	**1,980,679**	**1,971,589**	**78.95**
Denver-Great Falls	106,252	4,365	1,325,727	9,865	1,903,487	1,642,131	80.73
Cheyenne-Huron	37,676	903	230,938	286	77,192	329,458	70.10
Mid-Continent Airlines, Inc.—Total	**239,274**	**11,474**	**3,075,319**	**37,388**	**10,566,576**	**4,066,696**	**75.62**
Minneapolis-Tulsa	135,936	7,030	1,830,885	28,416	7,720,632	2,373,029	77.15
Minneapolis-Des Moines, St. Louis or Kansas City	103,338	4,566	1,244,434	8,972	2,845,944	1,693,667	73.48
National Airlines, Inc.—Total	**560,089**	**13,581**	**6,704,700**	**57,324**	**33,775,508**	**7,625,983**	**87.92**
New York-Key West via Miami	379,905	9,220	4,422,564	32,484	24,308,831	5,141,119	86.02
Jacksonville-New Orleans	180,184	6,085	2,282,136	24,840	9,466,677	2,484,864	91.84
Northeast Airlines, Inc.—Total	**171,248**	**13,514**	**2,838,281**	**41,434**	**7,766,240**	**3,922,998**	**72.35**
Boston-Presque Isle and Moncton	63,703	4,880	1,043,669	12,784	2,574,258	1,473,540	70.83
Boston-Montreal	21,312	1,397	266,726	2,049	311,460	472,680	56.43
Boston-New York	86,233	8,330	1,527,886	26,601	4,880,522	1,976,778	77.29
Northwest Airlines, Inc.—Total	**898,334**	**23,685**	**15,675,272**	**274,801**	**165,511,924**	**17,279,637**	**90.72**
Chicago-Twin Cities-Seattle; Fargo-Winnipeg	852,599	23,635	15,633,492	238,256	142,146,856	17,216,928	90.80
Minneapolis-Duluth	7,488	0	0	573	81,387	0	—
Minneapolis-New York	38,247	50	41,780	35,972	23,283,681	62,709	66.63
Pennsylvania-Central Airlines Corp.—Total	**856,165**	**58,511**	**14,507,540**	**693,566**	**151,029,133**	**17,703,633**	**81.95**
Norfolk-Detroit	506,459	40,098	8,940,942	410,094	86,080,240	10,425,912	85.76
Detroit-Milwaukee or Chicago	225,842	19,231	3,871,525	217,578	43,734,330	4,713,968	82.13
Pittsburgh-Buffalo	23,707	1,605	316,790	14,424	2,814,434	493,361	64.21
Pittsburgh-Birmingham	78,926	3,521	1,139,178	45,269	17,713,606	1,627,559	69.99
Washington-Buffalo	21,231	1,012	239,105	6,201	686,523	442,833	53.99
Transcontinental & Western Air, Inc.—Total	**2,842,855**	**48,608**	**47,426,723**	**1,733,007**	**940,520,759**	**51,748,880**	**91.65**
New York-Los Angeles	1,848,444	40,330	32,066,696	939,134	612,179,868	34,169,283	93.85
Dayton-Chicago	57,183	4,241	1,042,677	69,026	15,456,227	1,233,180	84.55
Winslow-San Francisco	212,784	9,809	3,894,573	58,375	24,100,147	3,978,066	97.90
Kansas City-Pittsburgh via Chicago	420,995	11,118	5,687,862	423,157	212,422,433	6,130,455	92.78
St. Louis-Detroit via Cincinnati and Dayton	123,762	7,677	2,005,617	119,730	22,217,782	2,506,844	80.01
Washington-Dayton via Columbus	90,108	4,502	1,612,904	65,694	23,676,532	1,964,634	82.10
Pittsburgh-Boston	89,579	2,525	1,116,394	57,891	30,467,770	1,766,418	63.20
United Air Lines, Inc.—Total	**3,320,271**	**63,237**	**51,424,250**	**1,199,489**	**998,324,826**	**53,078,881**	**96.88**
New York-San Francisco	2,423,377	33,650	34,135,488	928,289	862,314,984	34,913,402	97.77
Salt Lake City-Seattle	194,786	5,980	3,648,001	56,788	38,542,213	4,033,961	90.43
Seattle-San Diego	555,438	25,773	11,018,300	159,170	71,333,280	11,290,014	97.59
Seattle-Vancouver	17,324	2,202	298,157	6,228	793,916	320,380	93.06
Washington-Toledo	65,404	1,819	1,267,104	11,053	4,354,882	1,331,720	95.15
Cleveland-Boston	63,942	1,393	1,057,200	37,961	20,985,551	1,189,404	88.88
Western Air Lines, Inc.—Total	**449,836**	**19,154**	**8,120,663**	**133,102**	**65,686,813**	**9,316,906**	**87.16**
San Diego-Salt Lake City	249,592	9,468	4,549,080	100,931	55,454,576	5,208,870	87.33
Salt Lake City-Great Falls	61,340	2,695	920,040	4,689	1,403,064	1,280,792	71.83
Great Falls-Lethbridge	10,084	583	79,940	1,295	187,463	205,948	38.82
Los Angeles-San Francisco	128,820	7,332	2,571,603	26,187	8,641,710	2,621,296	98.10
Total	**17,598,666**	**509,839**	**285,431,384**	**8,245,529**	**4,522,633,012**	**317,754,914**	**89.83**
Caribbean Atlantic Airlines, Inc., San Juan-Mayaguez and Christiansted—**Total**	**16,297**	**1,483**	**104,480**	**22,907**	**1,857,554**	**143,046**	**73.04**
Colonial Airlines, Inc., New York-Montreal—**Total**	**132,503**	**6,268**	**1,911,856**	**16,609**	**4,724,376**	**2,786,721**	**68.61**
Hawaiian Airlines, Ltd., Honolulu-Hilo and Port Allen—**Total**	**82,002**	**9,424**	**1,339,326**	**707,412**	**107,783,745**	**1,423,872**	**94.06**
Grand Total	**17,829,468**	**527,014**	**288,787,046**	**8,992,457**	**4,636,998,687**	**322,108,553**	**89.66**

[1] The total passengers carried for each airline is an unduplicated figure.

Note: The above statistics include Caribbean Atlantic Airlines, Inc., A.M. 59 operations, between San Juan-Mayaguez and Christiansted. The reports for this company are now being carried in the CAB mileage and traffic recap of all domestic air mail carriers.

Operations for first five months of 1945 compared with same period of 1944

Operator	Revenue miles flown January–May		Revenue passengers carried (unduplicated)[1] January–May		Revenue passenger-miles flown January–May	
	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	567,234	442,948	0	0	0	0
American Airlines, Inc.	17,865,678	11,987,587	459,770	313,655	284,539,639	190,547,597
Braniff Airways, Inc.	2,914,765	1,774,655	115,477	70,924	50,111,295	29,943,644
Chicago & Southern Air Lines, Inc.	1,722,487	900,182	57,849	33,083	26,114,275	15,055,788
Continental Air Lines, Inc.	1,275,170	774,579	37,407	20,990	14,909,522	7,008,429
Delta Air Corporation	2,110,116	1,185,185	93,246	55,414	36,907,197	22,166,725
Eastern Air Lines, Inc.	9,977,412	6,037,060	312,048	161,359	166,915,488	93,813,012
Inland Air Lines, Inc.	693,886	366,115	22,410	5,631	7,250,942	1,879,907
Mid-Continent Airlines, Inc.	1,107,495	841,939	44,592	25,312	11,939,634	7,248,833
National Airlines, Inc.	2,277,649	1,177,884	58,081	43,184	27,422,598	14,055,379
Northeast Airlines, Inc.	598,343	389,261	37,001	17,489	7,718,801	4,171,660
Northwest Airlines, Inc.	4,038,359	2,269,334	102,592	50,772	66,977,858	34,106,436
Pennsylvania-Central Airlines Corporation	3,694,061	1,446,014	246,910	109,615	57,147,632	24,482,986
Transcontinental & Western Air, Inc.	11,593,695	7,255,762	188,618	127,881	178,893,861	108,692,098
United Air Lines, Inc.	14,595,059	10,589,878	240,370	226,537	208,709,189	161,373,496
Western Air Lines, Inc.	1,967,944	1,039,062	77,323	36,596	33,878,949	17,757,609
Total	76,969,353	48,477,445	2,093,694	1,298,442	1,179,438,880	732,303,599
Index (1944 = 100)	158.77	100.00	161.25	100.00	161.06	100.00
Caribbean Atlantic Airlines, Inc.	82,948	89,525	7,655	8,475	544,428	576,797
Colonial Airlines, Inc.	563,061	306,472	26,391	16,650	8,211,277	5,136,014
Hawaiian Airlines, Ltd.	412,757	359,463	49,998	41,095	7,126,509	5,883,977
Grand Toral	78,028,119	49,232,905	2,177,738	1,364,662	1,195,321,094	743,900,387
Index (1944 = 100)	158.49	100.00	159.58	100.00	160.68	100.00

Operator	Express carried (pounds) January–May		Express pound-miles flown January–May		Passenger seat-miles flown January–May		Revenue passenger load factor (percent) January–May	
	1945	1944	1945	1944	1945	1944	1945	1944
All American Aviation, Inc.	64,695	42,622	10,660,438	6,236,380	0	0	—	—
American Airlines, Inc.	13,205,397	7,789,413	6,456,377,337	3,700,883,424	320,862,749	215,829,930	88.68	88.29
Braniff Airways, Inc.	862,830	425,260	449,629,537	195,798,362	57,832,445	32,788,056	86.65	91.32
Chicago & Southern Air Lines, Inc.	743,694	396,822	314,130,352	159,624,479	35,349,159	18,193,239	73.85	82.75
Continental Air Lines, Inc.	181,600	64,877	84,280,708	27,992,926	19,506,325	8,477,570	76.43	82.67
Delta Air Corporation	529,139	361,615	202,004,357	136,843,970	43,053,728	24,406,804	84.54	90.82
Eastern Air Lines, Inc.	3,560,066	1,900,001	2,050,120,417	1,255,851,119	192,497,516	108,200,527	86.71	86.70
Inland Air Lines, Inc.	41,201	8,566	9,927,310	1,885,320	10,598,690	2,724,176	68.41	69.01
Mid-Continent Airlines, Inc.	177,765	82,745	51,456,025	21,836,171	18,212,573	10,305,313	65.56	70.34
National Airlines, Inc.	230,694	186,271	118,147,581	63,715,242	30,317,579	16,136,148	90.45	87.10
Northeast Airlines, Inc.	105,928	45,801	20,040,663	9,182,732	12,745,296	8,159,447	60.56	51.13
Northwest Airlines, Inc.	1,234,634	774,022	695,141,220	404,380,328	78,546,167	41,423,369	85.24	82.34
Pennsylvania-Central Airlines Corporation	3,454,191	1,625,272	740,772,196	297,807,514	75,469,539	30,105,546	75.72	81.32
Transcontinental & Western Air, Inc.	8,043,038	4,464,621	4,295,073,599	2,279,776,500	201,464,182	122,027,222	88.80	89.08
United Air Lines, Inc.	5,254,079	4,094,398	4,268,056,694	3,059,030,566	219,844,512	169,295,748	94.93	95.32
Western Air Lines, Inc.	559,356	369,678	264,682,417	193,114,931	39,494,104	20,912,799	85.78	84.91
Total	38,248,307	22,631,984	20,030,500,851	11,813,959,964	1,356,394,564	828,985,894	86.95	88.34
Index (1944 = 100)	169.00	100.00	169.55	100.00	163.62	100.00	98.43	100.00
Carribean Atlantic Airlines, Inc.	119,997	72,790	9,590,113	5,363,134	725,490	786,357	75.04	73.35
Colonial Airlines, Inc.	85,363	74,976	25,407,001	22,799,930	11,822,271	6,435,928	69.46	79.80
Hawaiian Airlines, Ltd.	2,921,983	2,792,701	448,710,504	438,367,324	7,536,144	6,295,512	94.56	93.45
Grand Total	41,375,650	25,572,451	20,514,208,469	12,280,490,352	1,376,478,469	842,503,691	86.84	88.30
Index (1944 = 100)	161.80	100.00	167.05	100.00	163.38	100.00	98.35	100.00

	January	February	March	April	May	Total
Passengers carried (unduplicated) total revenue and non-revenue[1]						
16 domestic airlines	363,276	341,980	452,744	458,924	520,257	2,137,181
Total airlines	379,954	357,125	470,654	476,644	537,562	2,221,939
Passenger miles flown (total revenue and non-revenue)						
16 domestic airlines	209,239,114	190,102,158	251,103,217	255,823,489	289,707,590	1,196,975,568
Total airlines	212,259,130	192,927,986	254,485,745	260,232,326	293,085,531	1,212,535,558

[1] Preliminary. Due to delay in reporting by some companies, these figures are subject to revision in subsequent publications.

Directives (*Continued from page 76*)

c. When an unairworthy condition of a serious nature is found, the manufacturer concerned will be requested to submit for approval by the Aircraft Engineering Office with which he normally deals, a service bulletin covering correction of the condition. A note will then be added to the directive and the manufacturer will be requested to change any airplanes that may be in production during or after the time the change is made mandatory. Thus, the notes will apply to certain serial numbers only. Whenever an unairworthy condition is found that warrants the grounding of pertinent airplanes the manufacturer will be notified immediately.

d. An unsolicited change which a manufacturer considers necessary to airworthiness will be made the subject of a directive note, provided the pertinent Aircraft Engineering Office with which he normally deals agrees that it is desirable.

e. When it becomes necessary or desirable that a mandatory note be deleted, the number of the note will not be reused, but will continue to be carried on the directive followed by the notation, Deleted, on a date given.

2. *Service notes*—Service notes will convey service information and precautionary advice for the benefit of owners. CAA inspectors will not check airplanes for compliance with these notes. The notes may or may not refer to manufacturers' service bulletins.

C. **Manufacturers' Service Bulletins** — Aircraft, engine, propeller and equipment manufacturers should furnish five copies of all service bulletins to the Aircraft Engineering Office with which they normally deal. The service bulletins will be reproduced by CAA for the use of its field personnel. Copies will not be available from this source for distribution to owners; however, they will be available for reference in CAA general information libraries. Owners should arrange to obtain their personal copies of service bulletins from the manufacturers. In order that satisfactory reproduction may be made, it is desirable that at least one of the five bulletins furnished be very legible. It would be very helpful if white paper were used and the typing, sketches, etc., were black. Also, if photographs are used in the bulletins and they are not clear, prints from the original negatives would aid greatly in making satisfactory reproductions. The following caption will appear on each reproduced bulletin: "Reproduced for Information of CAA Personnel."

1. If manufacturers wish to inform owners that the information, whether mandatory or not, contained in service bulletins is approved by CAA, it is satisfactory to indicate such approval in bulletins specifically approved by the CAA.
2. Compliance with corrective measures covered in manufacturers' service bulletins will not be made mandatory without the manufacturer first being notified.

The change is being made to eliminate certain disadvantages associated with the present method.

Engine Fails—Pilot Arthur Leroy Newmarch, of Pontiac, Mich., and his passenger, Miss Jessie Bagley, of Elizabeth Lake, Mich., were injured in a crash near Pontiac Airport when their plane stalled during a turn as they attempted a forced landing because of engine failure. Faulty repairs were held to be a contributing cause of the engine failure.

Newmarch had accumulated about 441 hours of flying time as a private pilot with single-engine land, 0-80 h.p. rating. About eight hours of this time had been logged in the plane involved. Miss Bagley was not certificated as a pilot.

Following a flight of approximately 55 minutes, Newmarch landed and invited Miss Bagley to ride with him. He made a normal take-off, but at an estimated altitude of 250 feet, the engine stopped without warning. The plane was banked sharply and during the turn the plane was stalled and struck the ground on its nose, left wing tip and left landing gear.

A teardown inspection revealed that one of the engine's two cylinders was scored and the piston badly scuffed. Improper installation of the piston pin circlet had permitted the circlet (retainer) to work through to the cylinder wall, where it became lodged fast and broke. One piece penetrated the hollow piston pin to the opposite cylinder wall, where it became so embedded and fused in the piston that continued scraping and scoring resulted. This created a tendency on the part of the piston to overheat, and, since a two-cylinder engine was involved, seizing resulted. After cooling, the piston became free once more.

Newmarch, who was not a certificated engine mechanic, stated that he had fitted the rod bushings himself.

Drift Sends Plane Into House—Inexperience and failure to correct for drift while taking off involved Student Pilot Clyde Ray Hudson, of Salamanca, N. Y., in a collision with a dwelling which resulted in serious injuries for himself and his passenger, George Carlburg, likewise of Salamanca. The aircraft was demolished and the building damaged in the crash.

Hudson, 32, held a student pilot certificate and had flown approximately 33 solo hours. He was ground operations manager at Salamanca Airport. Carlburg was not certificated as an airman.

Accompanied by Carlburg, Hudson took off from Salamanca Airport for the stated purpose of checking the weather. The take-off was made from the single east-west 1,200-foot runway toward the west, into a quartering 10-15 m.p.h. quartering wind.

The pilot stated that the plane bounced several times before it left the ground and he failed to gain altitude after taking off and seemed to be approaching a stall. To compensate for this, he nosed down slightly to gain speed and attempted to apply carburetor heat. Realizing that he could not clear obstructions in his flight path in time, he applied back pressure to cut forward speed, but struck the side of a frame house before he could complete the maneuver.

The plane came to rest with its nose extending four feet inside the building and with the bottom of the fuselage resting on the roof of the rear porch. The building was about 20 feet in height, and was located at about 2,500 feet to the west-southwest of the starting point.

There was no indication of mechanical failure of any part of the aircraft prior to take-off and some power was being developed when the collision took place. Dual controls were installed and operative. The pilot gave the ceiling at about 1,200 feet, visibility at 2½ to 3 miles and added that a light snow was falling. The temperature was 29°. Hudson stated that he had examined the aircraft, which had been staked out overnight, for ice, and that the light snow falling did not adhere to its surfaces.

The dwelling involved was to the left of the normal traffic pattern and the pilot apparently allowed the plane to drift following take-off. It was though possible that carburetor ice might have been forming at the time, resulting in a loss of power and difficulty in gaining altitude.

Hedge-Hopping Disastrous—Death came to passenger Stanley Ashbaugh, of West Manchester, Ohio, when 20 minutes of reckless flying by Student Pilot Donald Stephen Overholster, of Dayton, Ohio, ended in a crash which demolished the aircraft which they were flying. The accident occurred about two miles northwest of West Manchester.

Overholser, 18, had flown approximately 47 hours in the plane involved under a student pilot certificate. Ashbaugh, age 18, was not certificated as an airman.

On the morning of the accident Overholser took off from Dahio Airport, near Dayton, on what was supposed to have been a local practice flight. A half-hour later he landed on a farm near West Manchester, about 20 miles to the northwest, and picked up Ashbaugh. There followed an exhibition of hedge-hopping, diving and zooming during which, according to a witness, the plane was never more than 100 feet from the ground. After 20 minutes of this reckless flying, the plane pulled into a steep climb, stalled, and dived nose-first into the ground.

Damages Experimental Aircraft—Failure to familiarize himself with the characteristics of an experimental plane which he was flying, at a safe altitude before attempting a landing, was indicated as the cause of an accident which seriously injured Charles R. Conley and damaged his plane near Findlay, Ohio. Conley, 21, held a commercial pilot certificate with single-engine land, 0-330 h.p. and flight instructor ratings. He had accumulated about 1,100 hours of flying time.

Conley took off from Cleveland Municipal Airport to ferry the plane to Findlay. About an hour later he approached Findlay Airport from the east at 1,000 feet, and made a normal 180° approach. On the final leg, with flaps down at about 45°, he made a normal gliding descent until the plane was approximately one-third down the field and 15 or 20 feet from the ground.

At this point, full power was applied and the airplane made a shallow climb to about 250 feet, where it began to settle rapidly. Continuing about a half-mile at an estimated altitude of 75 feet, the plane was observed to enter a shallow right descending turn which continued through 110°. It then leveled out, struck the ground almost immediately in a nose-high attitude with power still applied, bounced about 55 feet, and came to rest inverted after the nose wheel had collapsed on impact with the ground.

The pilot stated that the engines were operating normally, and could give no reason for his inability to maintain altitude. Competent pilots who witnessed the accident stated that the flight appeared normal in all respects, except for the rapid settling after the 250-foot aititude had been gained.

Power was on at the time of impact and the flaps were still down at an angle of approximately 45°. Little could be learned about the flight characteristics of the plane with flaps extended, and Conley, with no previous experience in the aircraft concerned, could throw no further light on the cause of the accident.

Reckless Flying—A similar demonstration of reckless low flying over a residential section of Hettinger, N. D., terminated in serious injuries for Student Pilot William Gunder Mahar, of Aberdeen, S. D., and in extensive damage to his plane. Mahar had accumulated approximately 58 hours of solo flight time prior to the accident, under a student pilot certificate not endorsed for solo cross-country flight.

On the 220-mile return trip from Haley, N. D., to Aberdeen, Mahar landed at an undesignated airport in Hettinger, his former home town. He took off from there in the early afternoon and circled the town at an altitude just above trees and houses. He then dived at some trees, and as he pulled out of the dive, failed to clear a power line near the main street of the community. The plane crashed nose first into a hill a short distance beyond.

Examination of the wreckage, indicated recklessness as the cause of the accident.

Flew Too Low—Minor injuries were sustained by Student Pilot Edward J. Acree, of Reno, Nev., and his passenger Howard J. Gwinn, of San Francisco, Cal., was seriously injured when the left wing of their plane struck the ground during low and reckless flight five miles south of Reno Airport. The plane suffered major damage.

Acree, 17, had accumulated about 55 hours of solo flying time prior to the accident, of which approximately 25 hours were in the plane involved. Gwinn, age 30, held a commercial pilot certificate with single and multi-engine land and sea, 0–8100 h.p., and instrument ratings. He had accumulated about 1100 hours, principally in multi-engine aircraft.

Pilot Acree rented the aircraft for a solo pleasure flight, but took Gwinn along as a passenger in the front seat. Dual controls were installed and operative in the plane.

After taking off from Hubbard Field, Reno, the plane was observed flying low over an area about five miles to the south. Witnesses stated that the plane power-dove at some horses they were herding until it was within 20 feet of the ground, and then pulled up in a climbing left turn. Although their accounts of the crash were vague, they agreed that the plane struck the ground on the left wing tip.

Acree's and Gwinn's statements varied widely. Acree contended that he had tapped Gwinn on the shoulder after the take-off and had turned the controls over to him. Gwinn declared that Acree had flown the plane at all times, and that Acree, while flying about ten feet above the ground, had started a turn just before the crash, during which the left wing struck the ground. Acree's contradictory statements tended to lend greater credence to Gwinn's testimony.

Too Low Acrobatics—Pilot and passenger died in an accident near North Augusta, S. C., when the former failed to complete an acrobatic maneuver begun at a critically low altitude. The pilot, 29-year-old Christopher Kelmer Barton, of Warrenville, S. C., had accumulated about 2,000 hours of flying time under a commercial pilot certificate with single-engine land, 0-675 h.p. and flight instructor ratings. The passenger, Weaver Edgar Johnson, of Aiken, S. C., was not certificated as an airman.

Contributory causes of the accident were held to be the pilot's recklessness in attempting acrobatics at dangerously low altitudes, and his unfamiliarity with the aircraft involved. Of his 2,000 hours of flying time, only 90 minutes had been flown in the aircraft concerned.

Reckless Flying Kills—Needlessly low and reckless flying was held by the Civil Aeronautics Board to be the cause of four recent accidents in which one person met his death and five others were seriously injured. All of the aircraft involved were demolished or badly damaged.

Serious injuries were sustained by 17-year-old student pilot Burton Junior Blackmer, of Ravenna, Mich., when his plane crashed and was destroyed during an exhibition of "reckless, show-off flying" about five miles northeast of Muskegon County Airport, Muskegon, Mich. Blackmer had accumulated approximately two hours of solo flight time when the accident occurred.

He took off from the airport in the early afternoon for a local practice flight, and shortly afterwards was observed circling the home of a girl acquaintance five miles to the northeast, at the edge of the practice area to which he had been assigned. After circling the area several times, he flew to his parents' farm, about ten miles to the southeast and again began to circle. Witnesses testified that he flew very low and that at times his plane almost touched the ground.

Blackmer returned to the girl's home, and resumed circling at a very low altitude. During a left downwind turn near the ground, a loss of altitude caused his left wing tip to graze the ground. The plane cartwheeled to the left and came to rest on nose, left wing and landing gear at an angle of about 45°. He stated that he had been ill because of dental work and believed that he had fainted while circling at an altitude of 600 feet.

New Aircraft Fabric Specifications Issued; Data Asked By Trade

New specifications for aircraft fabrics and the procedure for obtaining approval have been issued by the Civil Aeronautics Administration.

The change in policy was made in compliance with requests from repair agencies and operators and owners of airplanes who want to use fabrics of known grade and uniform quality for recovering aircraft in the field.

Manufacturers Interested—Manufacturers have also expressed interest in having CAA fabric specifications so they can make their products conform and be identified as CAA approved, and thus make acceptance certain.

Renstrom Appointed CAA Librarian

Arthur G. Renstrom, since 1935 senior assistant in the Division of Aeronautics of the Library of Congress, has been appointed librarian of the Civil Aeronautics Administration to succeed Clara S. Haupt.

In addition to his academic record in library science, Mr. Renstrom brings to the CAA a rich background of experience in library work covering a long period of time. From 1922 to 1927 he was associated with the St. Paul Public Library. His next tour of duty, from 1928 to 1929, was as librarian of Battle Creek College, Battle Creek, Mich. From 1931 and up to his present CAA appointment, he was connected with the Library of Congress.

Mr. Renstrom is well known in aviation circles as a compiler and editor of many aeronautical bibliographies. He is a member of the Institute of Aeronautical Sciences, and has contributed to such authoritative aviation journals as the Air Law Review and the Aeronautical Engineering Review.

Material	[1] Minimum Tensile Strength	[2] Minimum Tearing Strength	Threads Per inch	Sizing, Finishing & Other Non-Fibrous Material Max. %	Maximum Weight Ounce Per Sq. Yard	Fiber	[3] Maximum Elongation %	Yarn
Grade CAA-1 For use on aircraft with wing loading of 9 psf or over, or never exceed glide or dive speed of 160 mph or over	80 lbs. per inch warp and fill	5 lbs. warp and fill	80 min. 84 max. warp and fill	2.5	4.5	Cotton	13 Warp 11 fill Under 70 lb. tension load	Optional Single or two ply Combed
Grade CAA-2 For use on aircraft with wing loading of less than 9 psf or never exceed glide or dive speed of less than 160 mph	65 lbs. per inch warp and fill	4 lbs. warp and fill	80 min. 94 max. warp and fill	2.5	4	Cotton	13 Warp 11 fill Under 57 lb. tension load	Optional Single or two ply Combed
Grade CAA-3 On gliders with wing loading of 8 psf or less, or never exceed glide or dive speed of 135 mph or less	50 lbs. per inch warp and fill	3 lbs. warp and fill	110 max. warp and fill	2.5	3.5	Cotton	13 Warp 11 fill Under 44 lb. tension load	Optional Single or two ply Combed

[1] The tensile strength to be determined by the strip method of testing as outlined in Federal Specification CCC-T-191a.
[2] The tearing strength to be determined by the strip-tear method of testing as outlined in Federal Specification CCC-T-191a.
[3] Elongation to be determined during strip test.

Any fabric which can be shown to be the equivalent or better of one set forth in the specifications will be equally acceptable. Army-Navy fabric Grade A conforming to Specification AN–C–121 is equivalent to grade CAA–1; Army Air Forces glider fabric conforming to AAF Specification 16128 is equivalent to grade CAA–3.

CAA–1 and CAA–3 fabric specifications are the same as presently outlined in manual 04, section 04.415, and manual 18, Table 6, except for the addition of a minimum tearing strength. Grade CAA–2 fabric replaces the indefinite "intermediate" fabrics now included in manuals 04 and 18.

Grade CAA–1 is the minimum fabric grade acceptable for use on aircraft having wing loadings of 9 psf or over, or which never exceed glide or dive speeds of 160 mph.

Grade CAA–2 will be acceptable for use on aircraft with wing loadings of less than 9 psf, or which never exceed glide or dive speed of less than 160 mph. Because of the short useful life and unsatisfactory service experience of lightweight fabric, the minimum tensile strength of fabric satisfactory for use on light airplanes is being raised from 50 pounds per inch to 65 pounds per inch.

Fabric for Gliders—A 50-pound grade of fabric (Grade CAA–3) is being retained for use on gliders with wing loadings of 8 psf or less, or which never exceed glide or dive speeds of 135 mph or less.

All fabrics meeting the requirements specified below will be approved by the Civil Aeronautics Administration upon request. Approved fabrics will be listed on a Product and Process Specification and must be suitably identified by the manufacturer.

Specifications for CAA Approved Aircraft Fabric —Grades CAA–1, CAA–2, and CAA–3.

(a) The cloth should be of plain weave. The yarn should be mercerized under tension or the cloth should be piece mercerized
(b) The selvage edge should be flat woven with no greater tension than the body of the cloth.
(c) Finishing should consist of washing, framing and calendering. The calendering should be sufficient to lay any nap present and to provide a smooth even surface. The cloth should be uniformly finished.
(d) The cloth should be chemically neutral.
(e) The fabric must incorporate a continuous identification marking to show the manufacturer's name or trade-mark and the grade of fabric. This marking may be stamped along the selvage.
(f) The grade of fabric will be established on the basis of the table shown below.

How to Obtain CAA Approval—Upon application for CAA approval, a certified test report must be submitted to show that the fabric meets the CAA fabric specifications given above. A sample of the fabric of sufficient size to permit removal of at least three 24-inch square specimens should be submitted with the report. Fabrics which are approved will be listed on a CAA Product and Process Specification. The approved listing will include a statement as follows:

(a) Samples submitted by the fabric manufacturer and approved by the CAA complied with the applicable specification.
(b) Listing on the specification is no guarantee that the products supplied will also comply.
(c) The furnishing of fabric which does not meet the specification requirements will be sufficient cause for removing the product and the manufacturer's name from the list.

The critical shortage of cotton goods at this time, may make it difficult for fabric manufacturers to change over to the grade CAA–2 immediately.

Air Cargo Rate Cut Foreseen In Revision Of Airworthiness Code

Reduction of air freight rates to five cents per ton mile through approval of new airworthiness requirements was predicted today by Charles F. Dycer, Director, Aircraft and Components Service of the Civil Aeronautics Administration.

Under the new requirements proposed by the Civil Aeronautics Administration and now being considered by the Civil Aeronautics Board, military airplanes such as the C-97 would not be automatically ruled out of the commercial field for freight and passenger service after the war. The C-97, because of high wing-loading factors does not meet present CAA airworthiness standards.

Many new designs now on manufacturers' drawing boards as well as other military models, potentially exceedingly valuable as "civilians," are barred by present regulations.

New Regulations Favored—The new requirements were drawn up by Dycer and his staff, after long discussion and study, with leading transport manufacturers, representatives of airlines, the Air Transport Association, the Air Line Pilots Association, and representatives of traffic control and communication agencies. The majority opinion is in favor of approval of the new regulations.

Most revolutionary of the suggested revisions calls for elimination of stalling speed limitations. This would automatically permit higher wing loading. Operating costs are directly related to wing loading.

At present, such serviceable load carriers as the Consolidated C-87 (transport version of the B-24), and the C-97 (a conversion of the B-29, Superfortress) could not be certificated as civilian carriers. The Douglas DC-4, Skymaster, which has an outstanding record as a military carrier (Army C-54, Navy R5D) cannot carry its full design load under existing regulations.

Higher Landing Speeds—"Higher wing loading would result in higher landing speeds, but would not necessarily demand larger airports," Dycer said. "Aids to take-off, derived through experiments and military experience with rockets, may lead to a new phase of take-offs for heavily wing-loaded planes. Arresting devices similar to those used on carriers, better brakes, reverse pitch propellors, and even reverse rockets, may be practical for stopping planes on short runways."

The complex suggested revision of the airworthiness requirements for transport type aircraft has been submitted to the Civil Aeronautics Board for its decision and will result in safer as well as cheaper air transport if adopted by them, according to Dycer.

Milkmen With Wings

Agricultural experts in Wisconsin, the great dairy state, predict that soon milk and other dairy products will be transported by air. Converted bombers are suggested as the vehicles because they can fly at great altitudes where nature will provide the needed refrigeration.

Eastern Air Asks Extension

The Board has been asked by Eastern Air Lines for an extension of Route 40 from Memphis to Kansas City by way of Springfield, and authorization to serve any and all other points along the proposed route and in addition any points north or west of Kansas City or south and east of Memphis to or from which the Board may find additional service required.

Airline Orders

Service

No. 2896 denies application of Orleans Airport Commission of the City of New Orleans to intervene in the Great Lakes-Florida proceeding. Docket No. 570 et al. (June 10.)

No. 3701 restores service by Braniff Airways at Galveston, Tex., which was temporarily suspended May 26, 1942, by order No. 1751. (May 23.)

No. 3703 grants permission to Western Air Lines to use Grand Junction Municipal Airport and the Denver Municipal Airport in service to Grand Junction and Denver, Colo., on or about June 1, 1945. (May 24.)

No. 3704 dismisses applications of All American Aviation for certificates of public convenience and necessity in Dockets 705, 1238 and 1477 upon request of applicant. (May 24.)

No. 3706 dismisses application of Aircraft Sales Co. for certificate of public convenience and necessity on request of applicant. (May 24.)

No. 3707 dismisses application of Ong Aircraft Corp. for certificate of convenience and necessity on request of applicant. (May 24.)

No. 3708 terminates the temporary exemption order granted American Export Airlines, Inc., for service between New York City and Port Lyautey, French Morocco. Exemption was granted July 2, 1943, by confidential order and that order together with records of the Board in connection with it are made public. (May 24.)

No. 3709 grants temporary exemption from section 401 of the Act to American Export Airlines for transportation of persons and property between the terminals of New York City and Foynes, Eire, with intermediate point Botwood, Newfoundland. (May 24.)

No. 3711 permits Continental Air Lines to establish non-stop service between Carlsbad and Roswell, N. Mex., June 1, 1945. (May 26.)

No. 3712 permits the Commissioners of Montgomery County, Ala., to intervene in the Southeastern States route application proceeding.

No. 3713 dismisses application of System Freight Service for certificate of public convenience and necessity. Action taken on request of applicant. (May 26.)

No. 3718 grants Chicago and Southern Air Lines permission to serve Evansville, Ind., through the use of the Municipal Airport there. (May 29.)

No. 3721 orders that part of Transcontinental & Western application for certificate requesting Allentown-Bethlehem be added as intermediate point on route 2 be assigned Docket No. 1913; that portion of Braniff Airways requesting authorization for service between Tulsa, Okla., and the co-terminal points, Newark, N. J., and New York City, by way of St. Louis, Mo., Cincinnati, and Columbus, Ohio, and Pittsburg and Philadelphia, Pa., be assigned to Docket No. 1914. The Board further orders applications of Transcontinental and Western, Dockets 221, 964 and 1913; American Airlines, Docket No. 395; Chicago and Southern, Docket No. 581; Braniff Airways, Docket No. 1914; United Airlines, Docket No. 1227, and Pennsylvania Central Airlines, Docket No. 1788, be consolidated and assigned for hearing before an examiner at a time and place hereafter to be designated. All existing orders of the Board relating to enumerated dockets, to the extent to which they conflict herewith, are revoked. (May 31.)

No. 3722 denies the application of Eastern Air Lines for extension of exemption to permit continuance of service to Evansville as an alternate intermediate point to Louisville, Ky. (May 31.)

No. 3726 grants permission to the City of Richmond, Va., to intervene in the Southern States Case. (June 1.)

No. 3729 grants the Port of New York Authority leave to intervene in the Middle Atlantic Area Case—Docket 674, et al. (June 9.)

No. 3730 grants TWA permission to start service to Fort Wayne, Ind., around June 18 through use of Baer Field. (June 9.)

No. 3735 grants permission to the City of Valdosta, Ga., to intervene in the Southeastern States Case in which Aero Pickup Service and a number of other applicants seek certificates of public convenience and necessity. (June 12.)

No. 3739 approves application of National Airlines, Inc., for authority to conduct nonstop service between Jacksonville and Miami, Fla. (June 18.)

No. 3740 orders that Mid-Continent Airlines be notified that the national defense no longer requires delaying inauguration of service to and from Muskogee, Okla.; Fort Smith, Ark.; Texarkana, Tex.-Ark., and Shreveport and New Orleans, La. (June 20.)

No. 3741 grants the City of Greenwood and the County of Greenwood, S. C., permission to intervene in the proceeding known as the Southeastern States Case. (June 15.)

No. 3743 grants the Port of New York Authority and the Cities of Cincinnati, Columbus, St. Louis and Tulsa permission to intervene in the Cincinnati-New York Additional Service Proceeding; denies petitions of Eastern Air Lines and the Cities of Amarillo and Detroit. (June 16.)

No. 3744 denies petition of Inter-Americas Airlines, Inc., that a portion of the certificate held by Caribbean-Atlantic for route No. 59 be revoked. (June 15.)

No. 3749 orders that the application of Blue Ridge Lines, Inc., Docket 1870, be withdrawn from the consolidated proceeding known as the Great Lakes Area Case, that the proposals in this docket be reassigned and made a part of Docket 1092, and that Docket 1870 be cancelled. (June 20.)

No. 3755 rescinds order 1774 insofar as it authorizes National Airlines to temporarily suspend service to and from St. Petersburg, Fla., on route No. 31. (June 21.)

No. 3761 notifies Continental Airlines that the national defense no longer requires delaying inauguration of service to and from Hutchinson, Kans. (June 22.)

No. 3762 grants United Air Lines permission to serve Philadelphia, Pa., through the use of the Northeast Airport. (June 22.)

Miscellaneous

No. 3628 prescribes Amendment No. 2 to The Form of the Report of Financial and Operating Statistics for International Air Carriers, CAB Form 2380. (Apr. 30)

No. 3629 prescribes Amendment No. 4 to the Uniform System of Accounts for International Air Carriers, CAB form 2380. (Apr. 30)

No. 3637 prescribes Amendment No. 3 to The Form of Report of Financial and Operating Statistics for Domestic Air Carriers, CAB Form 2780. (May 2)

No. 3638 prescribes Amendment No. 8 to The Uniform System of Accounts for Domestic Air Carriers, said amendment to become effective as applied to operations performed on and after July 1, 1945. (May 2)

No. 3653 approves an agreement by and between UAL and National Airlines relating to sublease of ticket counter space by United at the Washington National Airport. (May 8)

No. 3654 approves an agreement by and between UAL and National relating to sublease of office space by United in the Airlines Terminal Building, New York City. (May 8)

No. 3656 approves an agreement by and between Penn-Central and Northwest Airlines relating to joint occupancy of a radio remote transmitter site at Oak Creek, Wis. (May 8)

No. 3657 approves an agreement by and between Northeast Airlines and Maritime Central Airways, Ltd., relating to interline ticketing arrangements between the carriers. (May 9)

No. 3660 approves an agreement by and between American and Eastern Air Lines relating to sublease of a radio transmitter site at Louisville, Ky., by American to Eastern. (May 30)

No. 3678 approves interlocking relationships now or hereafter existing as a result of the holding by Ralph Budd of a directorship and/or any office or offices within Railway Express Agency, Inc., while holding a directorship and/or any office or offices within certain other companies. (May 14)

No. 3680 approves cancellation of an agreement by and between Northwest, TWA and Chicago and Southern Air Lines relating to guard service at Chicago Municipal Airport. (May 15)

No. 3684 approves cancellation of an agreement by and between UAL and Mid-Continent Airlines relating to the furnishing of certain services by United to Mid-Continent at Des Moines. (May 18)

No. 3690 denies motion to dismiss a complaint against Northeast Airlines. (May 18)

No. 3705 orders Pan-American Airways to show cause why the Board should not make final its tentative findings determining the fair and reasonable rates for the transportation of mail by air over the services in its Latin American operations.

No. 3720 directs Pan American Airways to show cause why the Board should not make final its findings and conclusions in the matter of compensation for the transmission of mail by aircraft and the services connected therewith over the Airway's Miami, Fla., Leopoldville, Belgian Congo service. (May 30.)

No. 3727 approves applications of F. D. Lemmon and the Railway Express Agency, Inc., for interlocking relationships. (June 6.)

No. 3728 approves agreement between A. B. Aerotransport and certain other foreign and domestic air carriers relating to the Articles of Association of The International Air Transport Association (IATA) adopted at Havana, Cuba, April 19, 1945. (June 5.)

No. 3736 dismisses application of Colonial Airlines and John J. Astor for approval of interlocking relationships. (June 13.)

No. 3737 dismisses application of All American Aviation and Arthur P. Davis for approval of interlocking relationships. (June 14.)

No. 3750 denies application of Mountain States Aviation to present additional evidence in the Rocky Mountain Case. (June 20.)

No. 3751 institutes a proceeding to determine and fix rate of compensation to be paid Northeast Airlines for transportation of mail over route Nos. 27 and 65 for the period on and after May 1, 1945. (June 20.)

Airman Orders

Suspensions

No. 3714 suspends for 6 months private pilot certificates of Harold William Veeder and Charles Edward Zunker who were accused of entering more solo time than actually made and failure to keep an accurate log of flights. (May 29.)

No. 3715 suspends for 6 months private pilot certificate of Steve Hawkins for flying too low over Kansas City, Kans. The case was re-opened at the request of Hawkins, who sought to have the Board set aside its Dec. 5, 1944, decision revoking his certificate following his voluntary waiver of rights to a hearing. (May 29.)

No. 3725 suspends student pilot certificate of Ralph Kent Strange for flying too low and performing acrobatics when not properly equipped with a parachute manufactured in accordance with the CAR's. (June 1.)

No. 3746 suspends private pilot certificate of Broadus Banks Deaton for 90 days for giving flight instructions to 3 persons when he did hold a flight instructor rating. (June 19.)

No. 3747 suspends for 90 days the flight instructor rating of Haskell A. Deaton for misrepresentation. (June 19.)

No. 3748 suspends private pilot certificate of Rex Arndt Strickland for 32 days for carrying passengers and violating other rules. (June 19.)

No. 3758 suspends student pilot certificate of Bert Hays for 6 months for flying below 1,000 feet over congested area, Whitewater, Kans., and making a solo flight outside of the area to which he was restricted. (June 22.)

No. 3759 suspends student pilot certificate of Mack Elwood Brown for 6 months for violating same rules in same area as above respondent. (June 22.)

No. 3760 suspends student pilot certificate of Rex Birdwell Newcomb for 6 months. He also flew under 1,000 feet over Whitewater, Kans., and made a solo flight outside of the area in the vicinity of the operating base of his instructor. (June 22.)

Revocations

No. 3616 revokes the student certificate of Samuel Godsey because he had in his possession the commercial certificate of Thomas G. McBee and substituted in lieu of Mr. McBee's picture on McBee's airman identification card his own picture and then represented himself as McBee to the Assistant Manager, Nuckols Airport, Oklahoma City, Okla. Godsey also violated other provisions of the Civil Air Regulations (Apr. 27)

No. 3664 revokes student certificate of Leo K. Hiller because he carried a passenger and violated other provisions of the Civil Air Regulations. (May 11)

No. 3665 revokes student certificate of Wayne L. Hinds because he carried a passenger contrary to the provisions of sec. 20.720 of the Civil Air Regulations. (May 11)

No. 3666 revokes student and mechanic certificate of Howard W. Phillips because he carried a passenger and violated other provisions of the Civil Air Regulations. (May 11)

No. 3667 revokes student certificate of Lamar Griffin, Jr. because he carried a passenger on a flight from Peter O. Knight Airport, Tampa, Fla., and violated other provisions of the Civil Air Regulations. (May 11)

No. 3693 revokes student pilot certificate of Lewis Wilson McNutt for having carried passengers while holding only a student pilot certificate, and for subsequently having flown even after his student pilot certificate had been revoked and no other certificate had been issued to him.

No. 3710 revokes student pilot certificate of Leo Anthony Miltenberger for carrying passenger when he was not certified to do so. (May 25.)

No. 3719 denies request of Fred Girod to reconsider order revoking private pilot certificate, finding that the facts set forth do not warrant review of action of Nov. 7, 1944. (May 29.)

No. 3723 revokes student pilot certificate of Charles Dean Broeker for flying too low and carrying a passenger who was not a certified instructor. (June 1.)

No. 3724 revokes student pilot certificate of Roland Paul Lux for flying too low and performing acrobatics over a congested area. (June 1.)

No. 3732 revokes student pilot certificate of Waldo Beryl Adams for carrying a passenger who was not a certified instructor. (June 12.)

No. 3734 revokes student pilot certificate of Glen Harrison for erroneous flight time entry in his log book. (June 12.)

No. 3756 revokes student pilot certificate of William Arnold Holmes for flying without carrying an airworthiness certificate, pilot certificate or identification card. And also for carrying passenger. (June 22.)

No. 3757 revokes student pilot certificate of R. F. Joans for carrying a passenger. (June 22.)

Miscellaneous

No 3639 dismisses the Administrator's complaint which alleged that Adolf W. E. Fetzer, who holds a commercial certificate, flew at an altitude of less than 500 feet in the vicinity of the state fair grounds at Hutchinson, Kan. Evidence reveals Fetzer was acting under the orders of his superior officers in the CAP. (Apr. 17.)

No. 3640 dismisses the Administrator's complaint which alleged that Walden B. Leitz piloted an aircraft carrying

a passenger in the vicinity of the Otis Lodge Airport, Grand Rapids, Minn., and in attempting to take off piloted the plane directly toward occupied buildings and used less than one-half of the available runway for the take off. The aircraft was slightly damaged when it crashed at the edge of the airport. Leitz holds a commercial certificate with flight instructor rating. He surrendered his flight instructor rating to the Administrator for 147 days and no further action is deemed necessary. (Apr. 27)

No. 3643 waives the provisions of sec. 20,120 of the Civil Air Regulations so that James H. McClellan, a student pilot, may apply for a private certificate notwithstanding the fact that he is 17 years of age. (May 8)

No. 3647 dismisses the Administrator's complaint concerning Glenn Robert Metcalf who holds a student certificate. Metcalf made major repairs to an aircraft although he was not a certificated mechanic. (May 8)

No. 3648 dismisses the Administrator's complaint concerning Gordon H. Parsons, holder of a commercial certificate. Parsons made major repairs on his aircraft although he was not a certificated mechanic and violated other provisions of the Civil Air Regulations. Inasmuch as he voluntarily surrendered his certificate to a designated examiner of the Board and refrained from exercising the privileges thereof for 45 days, however, no further action is deemed necessary (May 8)

No. 3652 orders that ..... be issued a third class medical certificate and that a notation of the structural defects in ...../'s ears be made upon said certificate. (Note: inasmuch as this involves a physical disability, it is the policy of the Board to withhold the name of the person involved). (May 8)

No. 3671 reopens case so that additional evidence may be presented concerning revocation of the mechanic certificate held by Charles Toth. Order No. 3506 revoked Toth's mechanic certificate because he certificed an airplane as airworthy when it was not. (May 11)

No. 3689 orders that a second-class medical certificate be issued to ..... because of disappearance of nervous and metal disease and nervous instability previously responsible for denial of medical certificate. (Inasmuch as this order involves a physical disability, the policy of the Board requires that the name of the person involved be withheld.) (May 18)

No. 3691 denies a motion to dismiss the complaint against Charles S. Williams. (May 18)

No. 3695 denies a request for the waiver of Section 25.3, Civil Air Regulations, in the case of Robert L. Newhart. (May 22)

No. 3702 denies petition of private pilot to reconsider previous refusal to issue a medical certificate because physical condition would interfere with safe operation of aircraft. He suffered an attack of coronary thrombosis. In conformity with the Board's policy in cases involving physical disabilities the applicant's name is not made public. (May 29.)

No. 3716 reopens case of Raymond Lee Stephens holder of an A & E Mechanic Certificate to hear additional evidence which may have a material bearing on the case. (May 29.)

No. 3717 grants third class medical certificate to applicant following hearing on his petition for reconsideration of action. The Board finds that the organic disease, purpura hemorrhagica, of the applicant would not interfere with the safe piloting of aircraft. In conformity with the Board's policy the applicant's name is not made public. (May 29.)

No. 3731 dismisses action to suspend air agency certificate of Gill-Dove Airways, Inc., following hearing. (June 5.)

No. 3733 orders Wilbert C. Land, holder of student pilot certificate to appear before examiner of the Board, at a time and place to be fixed, to show cause why his certificate should not be either suspended or revoked. (June 12.)

No. 3738 dismisses complaint against Edward Hottensmith, holder of private pilot certificate. (June 15.)

No. 3742 terminates restrictive endorsement previously placed on private pilot certificate of Thomas Richard Ferrell who is now a captain in the Army Air Forces with an excellent record. (June 15.)

No. 3745 withdraws earlier suspension order concerning Albert Arnett White's commercial certificate. White voluntarily surrendered his certificate for sufficient time. (June 15.)

No. 3752 sustains previous refusal to issue applicant a medical certificate. The petitioner failed to pass required equilibrium test and also suffered unexplained lapses of memory in 1938 and 1939 which are suggestive of petit mal epilepsy. (Opinion and Order—June 15.)

No. 3753 grants petitioner a third-class medical certificate on the grounds that individuals should not be disqualified on the mere possibility of incapacitation. The petitioner suffers a duodenal ulcer which might cause sudden disabling pain. There is no certainty, however, that this will happen. (Opinion and Order—June 15.)

No. 3754 denies application of Henry B. Cushman to waive physical requirements to CAR 29.10. (June 20.)

Regulations

Part 49—Transportation of Explosives and other Dangerous Articles. *Effective July 1, 1945*

49.0 General. The following rules govern the carriage of explosives and other dangerous articles by any carrier or noncarrier civil aircraft in the United States.

49.1 Definition of terms. As used in this Part, the following terms shall have the following meanings: (a) "Interstate Commerce Commission Regulations shall mean the Interstate Commerce Commission's "Regulations for Transportation of Explosives and Other Dangerous Articles by Land and Water in Rail Freight, Express, and Baggage Services, and by Motor Vehicle (Highway), and water," effective January 7, 1941. (b) The terms "explosives" and "other dangerous articles" shall mean any article or substance classed as "Class A explosives," "Class B explosives," "Class C explosives," "Inflammable liquid," "Inflammable solid," "Oxidizing material," "Corrosive liquid," "Noninflammable compressed gas," "Inflammable compressed gas," "Poison gas or liquid, Class A," "Poisonous liquid or solid, Class B," or "Tear gas, Class C," in Part 2 of the Interstate Commerce Commission Regulations.

49.2 Acceptable explosives and other dangerous articles. Civil aircraft may be operated in flight carrying acceptable explosives and other dangerous articles as follows: (a) "acceptable explosives" designated in Part 5, § 654. of the Interstate Commerce Commission Regulations; (b) "acceptable articles" designated in Part 6, § 703, of the Interstate Commerce Commission Regulations; (c) samples of lacquers, paints, and varnishes, having a flash point between 20° and 80° Fahrenheit, in quantities not exceeding one pint, when packed in friction-top cans, the tops to be soldered or fastened by indentations in not less than six places, cans to be surrounded with sawdust or other material in sufficient quantity to absorb all of the liquid, and packed in substantial fibre boxes; (d) inflamable motion picture film when packed in accordance with the Interstate Commerce Commission Regulations, as amended to December 1, 1944.

49.3 Prohibited articles. No person shall operate a civil aircraft in flight carrying any articles designated as a "forbidden explosive" in Part 4, § 503, or as an explosive "not accepted" in Part 5, § 653, or as an article "not accepted" in Part 5, § 672, of the Interstate Commerce Commission Regulations or any other explosive and/or other dangerous article not designated in § 49.2.

49.4 Certificate of waiver. The Administrator may authorize the carriage of any of the articles prohibited by § 43.411 or § 49.3 by issuing a waiver for such carriage: *Provided,* That no waiver shall be issued for the carriage of such articles by any aircraft carrying passengers for hire.

49.5 Packing and shipping precautions. No person shall operate a civil aircraft in flight carrying explosives or other dangerous articles which are permitted by this Part unless: (a) such explosives and other dangerous articles have been appropriately packed and marked in accordance with the Interstate Commerce Commission Regulations; (b) such explosives and other dangerous articles have been placed in a baggage compartment inaccessible to passengers during flight; and (c) such explosives, other dangerous articles, and other cargo carried in the same compartment have been firmly lashed to the aircraft structure or otherwise secured in such manner as to prevent shifting in flight.

49.6 Safety equipment and small arms ammunition. Signaling devices, equipment necessary to promote safety in operation, and small arms ammunition in moderate quantities for personal use may be carried without complying with the provisions of § 49.5.

49.7 Shipper's certificate. The operator of a scheduled air carrier aircraft may rely on a certificate signed by an authorized agent of the shipper that a given shipment meets the requirements set forth in § 49.2

Amdt. 27–1.....Effective June 5, 1945

Reduction of required interval of time for reexamination of aircraft dispatchers. 27.27 of the Civil Air Regulations is amended by striking the number "90" and inserting in lieu thereof the number "30."

Amdt. 66–1.....Effective July 1, 1945

The Civil Air Regulations are amended by repealing Part 66. Revised foreign air carrier regulations are in Part 44.

Reg. 318–A.....Effective June 15, 1945

Extending the effective period of special civil air regulation No. 318—noncompliance with the student pilot are requirements. Special Civil Air Regulation Serial No. 318 is amended by striking the words "June 15, 1945" and inserting in lieu thereof the words "June 15, 1946."

AIR REGULATIONS . . . As of July 1, 1945

Title	Part No.	Price		Date Latest Edition		No. Amendments Issued	
		Part	Manual	Part	Manual	Part	Manual
Aircraft							
Airworthiness Certificates	01	$0.05	None	10/15/42	None	[1]	.....
Type and Production Certificates	02	.05	$0.10	3/1/41	3/15/45	.....	.....
Airplane Airworthiness	04	.15	.45	11/1/43	7/1/44	.....	.....
Engine Airworthiness	13	.05	None	8/1/41	None	.....	.....
Propeller Airworthiness	14	.05	.15[5]	7/15/42	6/1/45	.....	.....
Equipment Airworthiness	15	Free	.10	4/15/44	7/1/38	.....	.....
Radio Equipment Airworthiness	16	.05	Free	2/13/41	2/13/41	.....	1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments	18	.05	.50	9/1/42	6/1/43	.....	.....
Airmen							
Pilot certificates	20	[4]	None	7/1/45	None	1	.....
Airline Pilot Rating	21	.05	None	10/1/42	None	3	.....
Lighter-than-air Pilot Certificates	22	.05	None	10/15/42	None	1	.....
Mechanic Certificates	24	.05	None	7/1/43	None	.....	.....
Parachute Technician Certificates	25	.05	None	12/15/43	None	.....	.....
Traffic Control Tower Operator Certificates	26	.05	None	2/1/44	None	.....	.....
Aircraft Dispatcher Certificates	27	.05	None	10/1/43	None	1	.....
Physical Standards for Airmen	29	.05	None	6/1/42	None	3	.....
General Operation Rules	43	[4]	None	7/1/45	None	.....	.....
Air Carriers							
Air Carrier Operating Certification	40	.10	None	10/10/44	None	2	.....
Transportation of Explosives and other Dangerous Articles	49	[4]	None	7/1/45	None	.....	.....
Air Agencies							
Flying School Rating	50	.05	Free	11/1/40	12/40	3	2
Ground Instructor Rating	51	.05	None	12/15/43	None	.....	.....
Repair Station Rating	52	.05	Free	10/1/42	2/41	.....	.....
Mechanic School Rating	53	.05	[1]	8/1/42	5/40	.....	.....
Parachute Loft Certificates and Ratings	54	.05	None	1/21/43	None	.....	.....
Air Navigation							
Air Traffic Rules	60	[4]	.15	7/1/45	8/1/43	2	.....
Scheduled Air Carrier Rules	61	.10	None	2/1/44	None	3	.....
Foreign Air Carrier Regulations	44[3]	[4]	None	7/1/45	None	.....	.....
Miscellaneous							
Definitions	98	.05	None	10/15/42	None	.....	.....
Regulations of the Administrator							
Aircraft Registration Certificates	501	Free	None	3/31/43	None	.....	.....
Recordation of Aircraft Ownership	503	Free	None	3/31/43	None	.....	.....
Seizure of Aircraft	531	Free	None	12/8/41	None	.....	.....
Regulations Governing the Distribution and Use of Aviation Gasoline	534	Free	None	9/16/44	None	.....	.....

[1] Out of stock. [2] Special regulation No. 223. [3] This supercedes former Part 66. [4] Price undetermined. [5] Obtain from Division of Publications, Dept. of Commerce, Washington 25, D. C.

Note: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances must be by cash or by money order, payable to the Superintendent.

Weather Briefing At Busiest Traffic Center

Pilots are weather briefed at La Guardia Field by L. Harmantas of U. S. Weather Bureau.

Traffic Center

(*Continued from page 75*)

Reports Made Hourly—Where once the observations were made just before the flight—and only from a few points along the then existing airways—now an hourly weather service goes out to all who are flying, and observations are made four times a day to determine the winds aloft. In addition, two new services are under way: Flight Advisory Weather Service, which consists of short period forecasts and weather information sent to pilots in flight, and the Trans-Oceanic Forecast service which gives operational weather information for all over-ocean flying. This is up-to-the-minute information, sent by voice radio transmission.

It may be improved shortly to the point, where a "picture" of the weather in a certain area, in the form of facsimile transmission of weather maps, will be in use. The same kind of equipment by which the news services transmit pictures by wire is now in the service testing stage and the time may come when a facsimile receiver will be installed in the large ocean-going airliners to copy a weather map in flight.

Great things are in prospect in weather forecasting. Today, an experimental service which gives a profile of the weather over half the world is in operation. The pilot, accustomed to figuring his flight in terms of time, will know that for the first few hours of a flight, he will be in weather of a certain nature, and that thereafter for 90 minutes of flight, he will be in other conditions, and so on. Such a forecast, coupled with special advisory communications, and perhaps, a facsimile map transmitted at intervals, will further simplify the sometimes monotonous job of flying across the oceans.

Communications All Important—The all-important keystone of traffic control and weather service is communications. Today's tremendous facilities, serving 80% of the world's airways, originated with four radio stations set up by the Post Office Department in 1920 when air mail service was extended to the Pacific Coast. It takes literally millions of words to control traffic and disseminate weather information.

New York's station handles both overseas-foreign and interstate-domestic communications, distinguishing it from others of the 400 stations operated by the CAA. This permits close coordination of aircraft operating over land and sea, and forecasts still greater importance for the station when increasing flight ranges make possible inland termini for trans-ocean airlines after the war.

Air communications have gone far beyond the simple procedure of speaking into a microphone and having the words transmitted by radio. Teletype has been adapted to the transmission of messages in morse code. To speed up teletype, it was made automatic and then radio and telegraph were combined and made to operate automatically. A feature of these arrangements is that one originating station can send the same information to many other stations simultaneously.

The big gun of the New York communications station is the intercontinental transmitter WSY at Sayville, L. I. Many an ocean pilot swears by this station as his guardian throughout the eastern half of the world. Pilots have reported "working" WSY as they flew over India.

All overseas communication is handled by the CAA. Many frequencies are "guarded" throughout the day, and a pilot anywhere in flight from Europe or beyond finds a listener to whom he can communicate the many messages necessary for safe operation of intercontinental air service. These messages today are running to about 7,000 a month.

Covers Wide Area—The Atlantic area is this station's dooryard. Its high speed automatic, point-to-point radio-telegraph circuits handle all kinds of aeronautical traffic which can be picked up by any station, such locations as the Azores, Bermuda, British Gambia, Ireland, Liberia, Morocco, Newfoundland, Portugal, Puerto Rico and Senegal are in daily contact with Sayville.

The station also gives an emergency service of position bearing for overocean planes by direction finder.

Perhaps the next step at the New York station will come when radar is applied to civilian uses. Radar may give the traffic controller an actual picture of the planes in the air whose courses he must direct. The possibility of a big screen which will picture all aircraft in a given arc of the sky is not too fantastic.

Even these improvements leave the matter of speed of decision and transmission of instruction unsolved. The proposed electric posting board, similar to the quotation board in the stockbroker's office, will make possible faster posting of aircraft positions, and by-pass the slower verbal and handwritten method.

To produce mechanical apparatus that can compete with the speed of thought and human speech is another problem, one that is always Number 1 on the air traffic controller's agenda.

Landing

(*Continued from first page*)

and 12 minutes. CAA airways officials believe that with the planned installation of Very-High-Frequency radio equipment, free of static, "blind" landing time can be cut still further. However, the demonstration used only existing equipment, and the new method is responsible for the saving in time.

Planes "Stacked" 10 Miles Out—Under the new system, arriving airplanes are "stacked up" over a fan marker about ten miles from the airport for holding procedure. This differs from the current method of holding over the range station itself, which is usually located immediately adjacent to the airport.

By starting descent further out, from the fan marker, the pilot can approach on the range leg in a straight-in approach, pass over the range station at final approach altitude, and make a normal let-down.

For demonstration purposes at Washington, the Mt. Vernon fan marker, located 8.2 miles from National Airport was used for a holding point. The pilots chosen for the test are all competent instrument pilots, but not engaged in instrument flying continually nor as much as airline pilots. During the test, the planes were stacked in the usual thousand foot separation pile with the lowest at 2,000, the high man at 6,000.

Get 5 Minutes Warning—Each pilot in the approach sequence was given approximately five minutes advance notice of the time he should leave the Mt. Vernon fan marker, and was allowed one minute error either way. The pilots then arranged to leave Mt. Vernon, at the proper time, headed for the range station by varying their holding paths, and without further instructions from the controller.

The second aircraft was instructed to descend from 3,000 to 2,000 immediately after the first plane had left 2,000. Headed to the airport, each plane was stepped down as the one below left its level. This can be done with surprising speed. During the only test in which this feature was timed, the plane at 6,000 feet was descending 95 seconds after the plane at 2,000 had passed Mt. Vernon and started his approach. During the 95 seconds each plane between had been instructed to descend and had advised the controller that he had vacated his altitude.

In normal, heavy traffic conditions, airway traffic control would be feeding a continuous stream into the top of the stack, and a cascade of planes would be flowing down at all times, passing the fan marker 3 to 5 minutes apart.

Control instructions are brief and simple:

Controller—Army 096 depart Mt. Vernon 1054, make straight-in approach, maintain 2,000 until advised. (Given at 1048)

Pilot—Roger, Army 096.

The instructions may also be given this way:

Controller—Eastern 32 descend to 2,000 immediately, report leaving 3,000.

Pilot—Eastern 32 leaving 3,000.

Except in unusual conditions, or when unforeseen troubles develop, these two instructions control the entire routine up to the final landing approach.

The CAA believes that this demonstration, operated on the Washington range station "in competition" with a normal flow of traffic conversation, showed that even better results can be obtained in the future by allocating one VHF frequency to Approach Control. VHF would eliminate static troubles which garble conversation in bad weather, and clearing a frequency for approach control would eliminate competing conversations.

In the near future the CAA will make a public demonstration at Indiapapolis using VHF equipment. Representative news services will be invited to attend.

Aircraft Shop Classes Open

Shop classes composed of more than 100 persons, war workers, veterans and high school pupils, have been opened in Akron, Ohio, by an aircraft school there. The course covers one year.

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